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MEDICAL DISCOVERIES BY THE NON-MEDICAL.

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PHILADELPHIA.

I have been struck by the fact that the majority of great medical discoveries, truths and instruments, have not been made completely and suddenly, but have been led up to by preliminary and progressive steps, and that the layman has so often made these discoveries prior to the medical practitioner. This great medical truth is, indeed, but an illustration of the general law that all professional progress, in whatever branch of study, is somehow or other a result of stimulus from without. There is so much interest, and there are so many lessons to be drawn from such observations in medical history, that I have in late years kept minutes of this class of truths, from which I make the following selections:

When we commence observation of the origins of medical discovery and treatment, we are struck by the fact that "our brothers the animals" were first in learning not a little of medical art. It has been noticed[1] that birds often show a true surgical instinct. M. Tatio on several occasions has killed woodcock that were, when shot, convalescing from wounds previously received; and in every instance found the old injury neatly dressed with down, plucked from the stems of feathers, and skilfully arranged over the wound, evidently by the beak of the bird. In some instances a solid plaster was thus formed, and in others ligatures had been applied to wounded or broken limbs. Ten times in his experience he has found birds whose limbs had been broken by shot with the fractured ends neatly approximated and ligated together—a statement that is vouched for by no less a naturalist than Fulbert Dumonteil. Dr. James Weir[2] says that when bees are attacked with diarrhea they at once begin to suck astringent pieces of the dogwood, poplar, wild cherry, or hickory, and readily cure themselves. Their instinct carries them so far that "in winter if they should happen to be afflicted with diarrhea, they will readily drink a decoction of wild cherry if it is placed in the hive. Moreover, they seem to know that filth is a source of disease, for in winter all the sick members of the hive deposit their dejecta as far from the combs as possible. As soon as warm weather arrives, the accumulated filth is removed and the spot carefully cleansed." Dr. Weir further believes that many of the higher animals have discovered and use a materia medica that should be recognized by human physicians. For instance: Dogs will seek out and devour the long blades of couch-grass (*triticum repens*) when they are constipated; horses and mules will eat clay when they have "scours"; cattle with eczema have been seen to plaster hoof and joint with mud. He speaks of seeing a cow break thin ice on a pond and treat her itching joint to a mud poultice. Cats will go miles when they are "under the weather" for a dose of catnip. The saliva of animals seems to have a distinct curative action. Dogs, cats, cattle, rodents, monkeys—all lick their wounds when they can get at them, and soon effect cures. Weir also tells of a large dog-faced monkey who scratched his shoulder badly on a projecting nail in his cage. He immediately went to a corner and, seizing a handful of clean sawdust, pressed it on the bleeding scratch. In a few moments the bleeding ceased and the blood dried, leaving a coating under which the healing was prompt. Rev. Egerton R. Young,[3] a missionary in northwestern Canada, shows us that the surgical instincts of the dog may become so far developed as to produce a real surgeon-doctor. One of his dogs spontaneously took up this work, and became so expert that the Indians called him *Muskeke Atim*, the surgeon. Galls, wounds, frozen feet, etc., in the other dogs were successfully and systematically treated by Doctor "Rover." The wounds or sores that could not be reached by the dog's own tongue did not heal. The fact shows that, in a state of health and with pure food, the dog's saliva has a perfect bactericidal and healing power. Perhaps it would make an ideal antiseptic. No bacteriologist has caught the hint.

The logical or evolutional order of the subjects of my list would be to pass from the medicine of animals to that of savages, and so, finally, reach the more compact body of truth now held by the profession. I am compelled, however, to take the matter up topically, in order better to place it before you; the contributions of primitive men must, therefore, be noticed as we proceed from subject to subject.

In the history of medicine *ophthalmology* was one of the earliest subjects to command professional opinion. The eye is the most important of all the organs of sense, and blindness the greatest of afflictions. The early gatherings of medical lore, in large part, relate to the eye. The operation of *couching cataract* goes so far back in primitive times that Ælianus says that men learned it from goats, who, by pushing their heads against the thorns of a thorn-bush were accustomed to operate on their own cataractous eyes. It is noteworthy that in the operation by the Greeks a mydriatic was used and local anesthesia, as well as general narcosis, was induced.[4] The greatest discovery in this specialty is held to be the ophthalmoscope, but two others, in my estimation, far outrank it. Before Helmholtz, a non-medical man, Babbage, doubtless devised an in-

strument "for the purpose of looking into the interior of the eye," and even Helmholtz said of himself that it was not inclination but external circumstances that forced him to become, temporarily, a physician.

According to Dr. John Green,[5] *spectacles,* both convex and concave, were in common use by the Chinese before the opening of commerce with Europe. They were made of a transparent stone, of a color like that of a strong infusion of tea, called scha-chi (tea-stone), and were tied on the head by silken cords. The common use of some form of magnifying glass by the ancients is well proved by their perfect workmanship, as displayed in the engraving of gems; and a crystal wrought in the form of a convex lens has been actually discovered in the ruins of Nineveh by Sir Francis Layard. Pliny's description of the visual defect of the Emperor Nero strongly suggests compound astigmatism. The statement that Nero was accustomed to view the conflicts in the arena by means of a smaragdus would seem to be best explained by assuming that the emperor possessed a large, highly-polished emerald, very likely of uneven curvature in its two principal diameters. The theory implies that the use of the gem for this purpose was the result of an observation made by Nero himself, who may, therefore, be credited with the accidental discovery of an eyeglass suited to myopia or compound myopic astigmatism; the invention apparently died with the inventor. Certain it is that spectacles were in common use for at least 150 years before the theory of their action was explained. Bifocal lenses were devised by a layman, Benjamin Franklin.

Although a physician discovered *astigmatism,* it was the mind of the natural philosopher or physicist in him that made the discovery, not that of the medical man. The discovery of the clinical significance of astigmatism was made by a physician, S. Weir Mitchell, 75 years later.

The laryngoscope is one of the best illustrations of a great medical discovery made by a non-medical man. The inventor of this instrument was a singing master of London, Señor Mañuel de Garcia, who was still living[6] in London in 1901, in his 98th year. In 1855 he presented a paper to the Royal Society of London, entitled "Physiologic Observations on the Human Voice." His investigations were carried out on himself by means of mirrors, a small one at the end of a long stem, for introducing into the pharynx, and a large one, which served both for directing the light on to the small mirror and to enable the operator to see the image formed on it. Garcia's invention was treated by the English with apathy and even incredulity. His paper, however, fell into the hands of Türck of Vienna, who failed with the device, but later, Czermak converted it from a "physiologic toy" into an instrument of scientific research and popularized its use by his demonstrations on his own throat in Vienna, London, and elsewhere.

In the seventeenth century Sir Kenelm Digby published his book on the cure of wounds by the "Powder of Sympathy." The knowledge of this wonderful powder, he says, came from a priest just returned from the Orient. By the aid of this "vitriol" he claimed to heal wounds without either touching or seeing the patient, by dissolving some of it in a vessel containing water, and putting in this water any article having on it blood from the wound to be treated. In the meantime the patient was advised "to cast away all plasters, only keep the wound clean and in moderate temper 'twixt heat and cold." However absurd this may seem, Draper tells us it was the beginning of the doctrine of *adhesion,* or the cure of wounds by immediate union, a practice little appreciated until the days of John Hunter; while Dr. W. A. Hammond claims that it embodied all there is of real value in our modern antiseptic treatment of wounds, and occasioned a greater revolution in the treatment of wounds than has been accomplished in later times by Lister and his followers.

I make the following excerpt from Baas[7]:

The first cesarean section **on the living and parturient woman was practiced by the sow-gelder, Jacob Nufer, of Siegershausen in Thurgau, on his own wife, about the year 1500. After 13 midwives and several lithotomists had endeavored in vain to relieve her, her husband, having invoked the assistance of God and obtained the special permission of the governor of Freuenfeld, operated "just as on a sow" with such good fortune that the mother survived to the age of 77, and was able subsequently to bear several children—and even twins—in the usual way. Undoubtedly, therefore, the operation was unnecessary, and the same was true of many of the operations which soon followed; for cesarean section became the fashion for a short time. A sow-gelder is said to have removed the ovaries of his own daughter in consequence of her lasciviousness, during the 16th century (Weyer tells the story), so that such fellows and operative gynecologists are to be considered the predecessors of Hegar, and to be praised accordingly.**

As a result of this enrichment of the technic of operative midwifery by a simple sow-gelder, the cesarean section seems in the course of the 16th century to have been practiced repeatedly, e. g., in Italy in 1540 by Christof. Bain; 1531, in Neusse; 1549, by Paul Dirlewang, on Marie Volcser, in Vienna, etc. Now, however, it was performed in a somewhat more becoming fashion, and chiefly by barbers, though some will admit as the first actual cesarean section only the one performed by Surgeon Trautmann in Wittenberg in 1610.

Celiotomy, according to Dr. Benjamin Howard,[8] was known by Japanese physicians of "centuries ago," one of whom wrote, "When medicines are ineffectual, as well as acupuncture, and the cautery, the abdomen and back may be opened, and the stomach and intestines washed."

According to Dr. W. J. Hoffman,[9] the Coyosteras Apaches employed a *splint in fractures* and gunshot injuries of the extremities that is well worth interest. An illustration is shown of an appliance used by a warrior for a comminuted fracture of the middle third of the left humerus. Strips of cedar wood, ¼ inch thick, ¾ inch wide, and 8 inches long, were bound together with sinew and applied to the arm by tying the loose ends of the sinews. Through the spaces between the strips water could be applied and a free discharge likewise secured.

Dr. McClanahan[10] says of the Indian *treatment of compound fractures:*

First, reduction by extension and counterextension. Some of the medicine men acquire considerable skill in manipulation and their results are creditable. Next all the openings are filled with bone-marrow extracts. Then over all is smeared a coating of the scrapings of rawhide boiled in water. This forms a gelatinous layer having considerable strength. Over this and around the entire limb is placed a covering of fine inner bark, when the limb is ready for the splints. These go entirely around the limb, being held in place by circular strips of cloth. If it is an arm, this is carried across the chest and retained by a circular bandage about the neck.

Franklin Staples[11] states that the Talmud describes, among other operations, one for *stone in the bladder* and others for the reduction of various fractures and dislocations.

F. Poncet[12] pictures a terra cotta image found in Phœnicia, in which there is represented a perfect hernial bandage, with two metallic plates, to be fitted over the inguinal openings. It leaves practically no doubt that the Phœnicians recognized *hernia* and knew of its *successful mechanical treatment.*

According to the Talmud, *carbuncles* were manipulated with the fingers and then cut crosswise (crucial incision of to-day). In *atresia of the anus*, splitting of the skin down to the rectum is mentioned. (Sabb. 134, 1.)

The collections of surgical instruments made from the ruins of Herculaneum and Pompeii bear witness to a high degree of specialization and art on the part of the Roman surgeons of that time.

Wunderbar enumerates from the Mishna and the Talmud no less than 56 forms of surgical instruments and appliances, exclusive of the obstetric stool referred to in Exodus, 1:16.

Surgeon-Major William Curran[13] says:

Narrating in a kind of autobiography the adventures of Captain Creighton (who fought under Montrose or Dundee in Scotland) and describing how Creighton had sustained wounds in a fight at Airs-Moss, Swift represents Creighton as speaking of his wounds as follows:[14] "My surgeon, having unfortunately neglected to tie a string to the tent of green cloth which he used for the wound, the tent slipped into my body, where it lay under my navel seven months and five days, and pained me exceedingly. The tent lying thus in my body made it impossible that the wound could heal. Wherefore I ordered some pipes to be made in a mould through which the thin corruption continually issuing out of the wound, might be conveyed as through a faucet. These pipes I cut shorter by degrees as I imagined the wound was healing from the bottom, till at last they became too short. Wherefore I made a coarse pipe myself which was long enough. This pipe, after the wound was dressed with brandy, was removed daily; and it happened one morning when the pipe was drawn out as usual, that the tent followed. Then I knew I should soon be well."

This Captain Creighton, in 1730-1735, was, therefore, the inventor of *drainage tubes.*

According to Dr. V. Deuffe, of the University of Ghent,[15] the rectal and vaginal speculum dates at least from 1000 B. C., a Sanscrit treatise by Sussutas (translated in 1844 by Hessler), describing such an instrument. It is also mentioned by Hippocrates and by other writers of the Alexandrian school, and has been found in the ruins of Pompeii.

In casting about for some means of combating mammary cancer, Beatson became interested in the custom prevalent among Australian farmers of *spaying cows* during lactation, in order to prolong indefinitely the period of lactation. It is during this period that there is enormous reproductive cell-activity with rapid destructive cell-metamorphosis. The cells involved in this process are of the identical epithelium, which undergoes hypertrophy in cancer of the breast, the difference being that in cancer continued growth of the epithelium takes place without any breaking down of tissue. The spaying results in cows, therefore, led him to try the same operation on women with *mammary cancer* in the hope that it would set up retrograde metamorphosis of the cancer cells. In several cases of inoperable cancer of the breast, he witnessed the disappearance of the tumor after *ovariotomy.* Abbe,[16] too, reports two remarkable cases in which ovariotomy was followed by rapid disappearance of recurrent cancer of the breast.

Anders[17], writing of the Winnebago and Dakota Indians, says that, as regards surgery, they never amputate. In large incised wounds, the parts are carefully brought together and secured with sutures of animal sinew, which they remove in 6 or 8 days.

As to *anesthesia*, Dioscorides[13] tells of a draught that may be given to human beings, before they undergo the pain of the surgeon's knife or cautery. Later, Pliny gives the formula of this draught, which was not only reputed to annul pain but was credited with producing a death-like sleep. Dioscorides further says, "a wine is prepared from the bark of the mandragora root, and three cyathi (a little more than four ounces) of this is given to those who require to be cut or cauterized, when, being thrown into deep sleep, they do not feel any pain." Pliny[18] remarks that the juice of the leaves of the mandragora is more powerful than the root. Of such a preparation he says the dose is six drams, to be taken before cuttings and puncturings. Speaking on the same subject, Apuleius[18] says that if any one is to have a limb mutilated, burnt, or sawn, he may drink a half ounce of the preparation, with wine, and while he sleeps the member may be cut off without pain or sense.

An editorial in *American Medicine,* April 19, 1902, says:

From the fact that ancient anatomists referred to the carotid artery as *arteria soporifera* and that the Russians still call it *sonnaia* (the artery of sleep) it appears that it has long been known that, by compression of the carotids, a state of anesthesia may be produced. It is not surprising therefore to find that among the natives of Java, Madura, and Banku, a procedure for obtaining narcosis is in extensive use under the name of *tarik urat-tidor,* or compression of the soporific vessels. The anesthetizer sits in front of the patient and grasps the patient's neck with the fingers, the thumbs placed back of and a little below the angle of the lower jaw, compresses the internal carotid artery against the spinal column. Complete loss of sensibility and of consciousness is produced. L. Steiner," of Saerabaya, Java, points out the absolute harmlessness of the method, the rapidity with which sleep may be obtained, and urges that it be given a place in surgery.

Benjamin Howard[20] says that "centuries ago" the Japanese used in celiotomies a narcotic mixture which contained *Datura alba,* aconite, etc.

In *gynecology and obstetrics* hardly a ray of scientific or rational light penetrated until modern times and civilization came to lighten the burdens borne by women of pain and superstition.[21] M. Weiss[22] says that the relation between *menstruation and ovulation* was known to the writers of the Talmud (vide Nida, 8, 1). Contrary to the Mosaic teaching, an intact or an injured hymen was not held as proof of either the chastity or the fall of a virgin; for it appears they recognized that conception was possible without the least injury to the hymen (Nida, 64, 2), while, on the other hand, mention is made of the fact that disease may give rise to destruction or atrophy of the hymen.

In *menorrhagia* astringent injections, such as the juice of strawberries and their leaves, or of plantain, was resorted to, reinforced by the use of pessaries of the leaves of plantain or knot-grass, bruised and rolled in a piece of fine linen, put "up in the womb."

Uterine prolapse was treated by reduction, followed by injections of the decoctions of galls; or, in bad cases, by the use of pessaries made of cork smeared over with wax, or sometimes made of wax alone. Fissured nipples were dressed with an ointment made of powdered elder bark, grease, and wax, i. e., an astringent.

In passing from surgery to medicine, we should note that the most ancient and persistent philosophy of

disease, lasting down to our own times, was that it was due to some evil principle or spirit coming into the body from the outside, and to be fought against and driven out by any means possible and powerful. The germ theory, infection and parasitism, on which our science is now builded, shows how essentially true was the old perception.

For forty years I have been repeatedly struck by the fact that all *animals hate flies* with an intensity not entirely explained by their "suctorial," stinging, or biting powers. Our domestic animals, even our draught animals, expend as much energy in keeping off the pests as they do in our service, or in getting food. Even the most pachydermatous are not exceptions. If we observe an elephant, we are astonished at his constant watchfulness and exertions in keeping off the common flies whose suctorial powers are so feeble as to be entirely out of proportion to the energy spent by the elephant. Might not bacteriology have received a hint here of service in discovering the etiology of disease? Did not Nature long ago thus find out that flies might be the carriers of disease germs? Science is now rapidly advancing toward the same discovery. The entomologist of the United States Agricultural Department, Dr. Howard, after long studies, believes that flies are often the active agents in spreading typhoid fever. The bacillus of Eberth has been found in flies, and if Dr. Howard is right, then the profession must educate the public and nurses, and so order hospital construction and service that flies shall have no access to food.

In the Talmud (Ketuba 77:2) is mentioned a disease, "Rotz," characterized by weeping eyes and a discharge from the nose and mouth (influenza?) said to be communicated from man to man, sometimes by flies! The malady is plainly and unmistakably ascribed to an animal parasite.

In the light of the importance now being attached to flies as the carriers of contagion, much interest attaches to the fact that precautions against breeding grounds for flies about camps are to be found in the Scriptures. That grand old sanitarian, Moses, found it necessary to be most explicit in the management of camps. In Deuteronomy, 23: 12-14, the old version reads: "Thou shalt have a place also, without the camp, whither thou shalt go forth abroad. And thou shalt have a paddle upon the weapon; and it shall be when thou wilt ease thyself abroad, thou shalt dig therewith and cover that which cometh from thee." The new version reads: "Thou shalt have a paddle among thy weapons," and, as a variant for paddle, gives "shovel" in the margin. The passage, therefore, means that a shovel for burying excreta immediately is a necessary implement for the members of every camp.

In a great empire[23] no question can be of more importance than the study of *malaria*. When we speak of one of our possessions as "unhealthy" it is in terms of "malaria" that we judge it. "Of all the diseases in our tropical possessions," says Dr. Willoughby Gardner in his interesting address to the British Medical Association, "by far the most important is malaria. It undermines the health of millions, and makes vast regions which would be otherwise our richest possessions, almost uninhabitable." In India alone, it kills every year some five million people—twice as many as cholera, smallpox, plague, and other infectious diseases put together. Indeed, one is almost tempted to agree with a writer in the Quarterly who says of the malarial germ "that it has played a greater part in human affairs than the greatest politician or general that ever lived." The first step in dealing with it was the discovery by the Romans, in the dawn of sanitation, that marshes and deficient drainage had much to do with its origin.

Herodotus writes (chapters 95-6) that the contrivances which the Egyptians use against the *gnats* wherewith the country (Egyptian marshlands) swarmed are the following: In the parts of Egypt above the marshes the inhabitants pass the night on lofty towers, which are of great service, as the gnats are unable to fly to any great height on account of the winds. In the marsh country, where there are no towers, each man possesses a net instead. By day, it serves him to catch fish, while at night he spreads it over the bed in which he is to rest and, creeping in, goes to sleep underneath.

A correspondent of the *British Medical Journal* (Aug. 30, 1902) writes that in 1864 one of her majesty's sloops anchored off Ajiabambo, in the Gulf of California, "dollar hunting," and sent boats ashore, the crews of which were to proceed a short distance inland to obtain the dollars which, in those days, the Mexican government did not allow to be exported. The medical officer seeing that the country was sandy and covered with brushwood, feared that malarial fever might result with the men so employed, but was assured by a resident that there were no *mosquitoes* and that "where they do not exist there was no chance of malarial fever." The officer reported this to the medical department of the navy, but it attracted no attention.

In the fifth century, B. C., Empedocles of Agrigento is said to have freed Selinante from fever by drainage of the stagnant waters about the city. A number of Roman writers are quoted by Marchiafava and Bignami,[24] showing that marsh lands were injurious to the health of man, because of the miasms, invisible animal and insect life, emanating from them. It was suggested that the mosquito was the origin of malaria as early as 1618. The Abyssinians[25] knew where and in what months malarial diseases are most prevalent and, by acting on this knowledge, they generally succeed in avoiding malaria. When absolutely obliged to cross such places as the valley of the Mareb in the fever season, they continually explode blank cartridges and light damp fires to keep away "the fever." The Chillooks and Bongos of the Upper Nile make great fires of dried cow-dung when their herds come in at night. Thus a cloud of smoke hovers over the village and protects men and beasts from the mosquitoes. The Andaman Islanders plaster their skins with a mixture of lard and clay to protect themselves from the bite of these insects. The scientific demonstrations of the relation between the mosquito and malaria is recent, but the natives of malarial districts suspected it long ago and protected themselves accordingly.

Alexander von Humboldt[26] says some of the Orinoco tribes of natives smear themselves with red paint, "to keep off the mosquitoes, probably."

A traveler through British Honduras relates[27] the following incident:

One trifling incident will cause me to remember the negro colony at Tambol. In the Peten I saw a few cases of the disease called "pinta" which seems to be a dystrophy of the body pigment. It leaves the skin colorless or apparently white in blotches. Face, limbs, and body are liable to attack. Not only is it probably congenital, but it may be acquired by contact. On this particular evening the air was full of mosquitoes, and as we sat in the hut a man covered with the pinta blotches came to the door and would have entered, but the Carib woman drove him away, explaining her conduct by saying: "Signor, it is very bad that the mosquitoes that bite him should bite us. We catch pinta, tombière!" The mosquito is here re-

garded as the disseminator of all manner of diseases, especially the pernicious fever of the tropical coast. So, the science of the natives is not so very far behind the times.

Indeed, the historic foreshadowings of the theory of the microbic origin of disease are too numerous to gather here. But more than to any other we owe to Pasteur the discovery of the microbic origin of contagious diseases—and Pasteur was not a medical man, not even a physiologist; he was simply a chemist. By his researches as to the origin of silk-worm disease, of charbon, or splenic fever, of chicken cholera, etc., he laid the foundations of preventive medicine, a branch of science which is, beyond question, the greatest benefactor of civilization.[28] His work on rabies must also not be forgotten.

The *Quarterly Review* of July, 1899, says that the prohibition of pork among the Israelites and Mohammedans probably arose from the danger of *Tænia solium* and *Trichina spiralis;* and the general use of hot drinks, like tea in China, was probably based on acquaintance with the ill effects that may result from the use of polluted water. . . .

And, as to *immunity,* natural and acquired, there have long been suggestions of the truth in the habits of animals, and in human life everywhere. Old citizens of rattlesnake countries know of dogs which are not only fearless but which find their chief pleasure in hunting these snakes. Having been bitten and escaped death after their first experience, they become thereby immune, and thereafter progressively so with each fight. It is strange no physician ever realized the significance of the fact.

S. Weir Mitchell[29] says that it was an astronomer (Galileo) who gave us the first rude *thermometer,* and it seems to have been another, Herman Kepler, who first, and certainly before 1600, *counted the human pulse,* or, at least, left a record of having done this memorable thing. Does it not, Mitchell asks, seem incredible that of the numberless physicians who sat by bedsides, thoughtful, with fingers laid on that bounding artery, none should have had the idea of counting it?

It is strange that physicians should have waited until 1858 before seeing the use of the thermometer in medicine. In that year Wunderlich first described and urged its use, although the writings of Newton and Franklin show that it had been used long before for ascertaining the temperature of the human body. It was such a curiosity that one, about a foot long, is said to have been exhibited, less than 45 years ago, at a meeting of the British Medical Association by Sir Samuel Wilks, exciting curiosity and levity.

K. N. Macdonald[30] says: "*Inoculation with smallpox virus* has been practised by the Burmese from time immemorial. Among them, smallpox was called the inevitable disease, because of their idea that it is rooted in the human body from the time of birth. The usual procedure in inoculation is to mix the virus with milk and insert it under skin of the arm."

Immerman[31] claims that accounts of the inoculation of human smallpox may be found in the records of the most ancient times. Long before the beginning of our chronology, variola was purposely inoculated as a prophylactic measure in Hindoostan and China. In the latter country, the method never progressed beyond clothing the individual to be inoculated in a shirt impregnated with variolous pus or stuffing dried smallpox crusts into their noses. These measures frequently failed and they still more frequently led to violent variola. It is probably true, however, that in China the method never progressed further than this. In Hindoostan, on the other hand, the priests traversed the country in the spring of every year, and the virus was introduced by means of scarifications made on the outer surface of the arm or forearm, 15 or 16 in number, one-half inch long, and parallel. This area was then covered with a compress of cotton wool impregnated with the virus and moistened with the water of the Ganges. In addition to Hindoostan and China, with their primitive methods, it has been established that prophylactic inoculation was practiced by the inhabitants of Barbary and Senegal in Africa, and by the Circassians and Georgians in Asia before it crossed the Bosphorus.

Immerman[32] says that the fact that the so-called *vaccinia* (cowpox) was capable of transmission to the human individual has been known for an indeterminate period of time. Long before the days of Jenner it had been observed that individuals who had never had smallpox, but who had accidentally been infected with cowpox, remained immune when subsequently exposed to variola. Alexander von Humboldt, for example, says that since the earliest recollection of man, certain tribes of Indian shepherds in the Mexican Corderillas had been thoroughly convinced of the protective effect of vaccinia against variola. Brun makes a similar statement in reference to the clan of Elihats in Beluchistan. The belief in the immunizing effect of cowpox was also prevalent among the country and dairy folk of Europe and thoroughly rooted in certain parts. The tradition brought, by a dairy maid, under Jenner's notice, was widely spread in all the dairy districts of England and Ireland; it was prevalent in as many as 18 English countries.[33] Benjamin Jesty, a farmer of Dorsetshire, England, was probably the first person in Europe to *vaccinate with bovine virus for prophylactic purposes.*

The material relating to Jesty has been set forth by Crookshank in his work on the "History and Pathology of Vaccination," and it has been summarized by Dr. McCrae in the *Johns Hopkins Bulletin* for February, 1900, his article being illustrated by Say's engraving of Sharp's painting.

Benjamin Jesty[34] was born at Yetminster in Dorset, and was a farmer who moved to the farm of Downshay in the Isle of Purbeck, near Swanage, in Dorsetshire. He appears to have been an eccentric man, full of quaint actions and speech, but with good power of observation and of sensible reflection on what he had observed. In 1774 smallpox was prevalent in his locality. He was thought to be in no danger of it himself, as he had already acquired cow-pox, which he had contracted accidentally from the cows. Some of his family were not so protected, and the fact that two of his maidservants, who had previously had the disorder from the cows, attended patients suffering from smallpox without infection, seems to have determined Jesty to inoculate the cow-pox into his own family as a preventive of smallpox. Accordingly, Jesty carried out his ideas and inoculated his wife and two sons, aged 2 and 3 years, with the cow-pox. The patients went into the fields and the virus was taken on the spot from the teats of the cows. A stocking-needle was the instrument used, Mrs. Jesty being inoculated under the elbow, the sons above. The latter had the disorder in a favorable way, but in the course of a week Mrs. Jesty's arm was much inflamed. She had fever, and was so ill that a neighboring surgeon, Mr. Trowbridge, of Cerne, was called. He said: "You have done a bold thing, but I will get you through it if I can." She soon recovered perfectly, but the boldness and novelty of the attempt produced no slight alarm in the family and no small sensation in the neighborhood. Fifteen years later, in 1789, the sons were inoculated for the smallpox by Mr. Trowbridge along with others who had not had the cow-pox. The arms of the Jestys inflamed, but the inflammation soon subsided, and no fever or other variolous

symptoms were observed, while the unprotected individuals went through the usual course of inoculated smallpox. Subsequently Mrs. Jesty and her sons were often exposed to smallpox without taking it, while in 1805 one of the sons was again inoculated with a negative result. In 1805 the Jennerian Society persuaded Jesty to come to London for five days for the purpose "of taking your portrait as the earliest inoculator for cow-pock, at the expense of the institution; you will receive fifteen guineas for your expenses." He came and his portrait was duly taken, but he conceived a very unfavorable opinion of the metropolis, though he admitted it possessed one great merit, namely, that he could be shaved every day. He died April 16, 1816, at the age of 79, and he is buried in the little village churchyard at Worth Maetravers.

I can not forbear admitting that this magnificent act of Jesty has never been rated at its true value. That Jesty was a layman does not detract from the honor that is his due, but, to my mind, adds to it. Neither Jesty nor Jenner discovered the fact of immunity from vaccinia, and neither could explain it. That Jenner waited 25 or 30 years after the dairy folk had found the truth, and 22 years after Jesty vaccinated his family, before he vaccinated the Phipps boy, is not a reason for making Jenner the discoverer of vaccination. That honor seems to me to be due to Benjamin Jesty.

It appears[32] that the Chinese have long observed the association between the death of *rats* in the house and the appearance of a case of *plague* a few days later in the family living there. J. Campbell Gibson[36] directs attention to the fact that the disease which preyed on the Philistines, described in Samuel I, chapter v, vi, was bubonic plague, and that they recognized the dependence of the spread of this disease on rats (or mice as the text has it); the Philistines (who thought to appease Jehovah by sending back his ark) sent, at the same time, as guilt offerings, golden images of the tumors, the chief symptoms of the disease in those cases which were not fatal, along with golden images of mice. The importance they attached to this relation is plainly shown by referring to the Septuagint, wherein the tumors are spoken of as "plague boils," and it goes on to say "in the midst of the land thereof, mice were brought forth, and there was a great and deadly destruction in the city." The description of the disease is quite clearly that of bubonic plague; the recognition that mice were responsible is very interesting.

"Among the means of protection possessed by the living organism against infectious diseases and toxic agencies, laboratory investigation has placed the *bile;* but, as is true of so many other facts in medicine, empiric knowledge anticipated scientific discovery.[37]

It appears also that, from time immemorial, the peasants of central France have been in the habit of using the gall bladder as a remedy for viper bites. They seem to have anticipated the interesting and valuable experiment of Phisalix, Neufeld and Valée and others concerning the antitoxic properties of the hepatic substances. In the *Revue Scientifique* (Feb. 23, 1901) a correspondent adds this statement: "The natives of Bengal are not alone in knowing the antitoxic power of the liver and in employing it therapeutically. Although Professor Frazer of Edinburgh first showed by scientific experiment that the bile of the serpent is an antidote against the venom of that creature, the natives of Guiana[38] have, for years and years, treated poisonous bites with a powder composed of the liver and bile of the serpent. Moreover, in California, the Indians do the same thing.[39] And at our watering places to-day[40] one may see fishermen treat stings and pricks with a plaster of fish liver. It is interesting that such practices, scattered here and there, all over the globe, among the most diverse peoples, are not at all so irrational as might at first sight be thought. They are justified by the brilliant studies of Frazer on the action of the bile against venom, by those of Frantzius on the action of bile against the virus of rabies, and by those of Vicenzi on the action of bile against the virus of tetanus.

In *materia medica and therapeutics* our modern knowledge and methods of treatment are often accretions of the ages, and sometimes precisely those of the earliest times.

R. H. True[41] says that less than two dozen of the botanic drugs now in use, have been introduced during the century just closed. He defines "materia medica as that body of substances which, in the popular belief, possess efficacy as remedies, although no confirmation has been offered by science. Indeed, science has often merely put its official stamp on folk beliefs in producing our present materia medica." "The beginnings of our present materia medica antedate the most ancient papyrus or inscription. It seems to have had its beginning in Egypt, Phoenicia or India. There is even a hint of our modern hemotherapy, as arterial blood, dried and powdered, is sometimes used as a restorative."

The Talmud "pharmacopeia"[42] shows that there were used infusions, decoctions, draughts, wines, vinegars, syrups, liniments, cataplasms, blisters, ointments, electuaries, plasters, powders; also cathartics, emetics, tonics, sudorifics, expectorants, abortives, hemostatics, astringents, poultices. The following substances also receive individual mention: Wine, vinegar, honey, whey, cotton seed, walnut and olive oil, garlic, mustard, pepper, coriander, ginger; also ox-gall, calamus, aloes, myrrh, mint, cotton-plant, hyssop, thyme, broomtop, poppy, acacia, mandragora, mandrake, mush, mercury, soda, borax, alum, iron, copper, lead and yellow arsenic.

S. S. Cohen[43] observes that the use of *Passiflora incarnata* is not original with the medical profession, and goes on to say that Benjamin Rush told his students that they could learn many useful methods of treatment even from "quacks and old women." There is much that may be learned of drug-therapy from irregular practitioners whose crude reports of uncritical observations frequently contain accounts evidently truthful of trustworthy experience.

The use of *light as a curative agent* is said to have been discovered by accident and by laymen. In a communication to the Academie des Sciences, Dr. P. Garnault tells of his success in the use of light in the treatment of rheumatism and other diseases. His attention was first drawn to the subject by M. Trouve, who observed that a workman afflicted by rheumatism was completely cured by remaining in the vicinity of an intense arc-light used for an electric fountain, and, subsequently, that in works employing electric soldering, in which there is a great effulgence of light, workmen had ceased to be affected by such diseases as rheumatism and gout.

Another version is given by *The Practitioner* as to the light treatment of lupus:

Four or five years ago (so runs the story) a watchmaker of Berlin was the subject of lupus of the face, for which he had been treated in the clinic of Professor von Leyden at the Charité Hospital. As the condition did not improve, the patient left the hospital and resumed work. He was in the habit of using lenses of high power. One day, whilst examining the inside of a watch, he was standing close to the window. The rays of the sun passed through the lens, the focus of which happened to be on a part of the man's face affected by the

disease. He felt a sharp pain, and on looking into a glass he saw that the burnt spot had become white. He repeated the experiment on the following days, keeping the lens sometimes for hours between the sun and the ulcerated places. In six weeks cicatrization had taken place, and the patient went to show himself to Professor von Leyden, who had declared that the disease was incurable.

"It is a fact that some of the greatest advances in medical treatment have been due to outsiders. But even if it be true that the watchmaker did discover for himself that lupus could be burnt with a lens, the fact can not detract in the least from the merit of Professor Finsen's achievement in working out the rationale of the process and the details of the method. The account of his experiments, given in his little book on 'Phototherapy,' which has been translated into English by Dr. Sequeria, of the London Hospital, is an admirable example of scientific method."

The writers of the Talmud[44] understood *massage with oil inunctions; diaphoresis* by means of warm baths; and, most noteworthy, *venesection* for plethora and quinsy! (See Joma, 84, 1.) The *therapy of water* was also crudely understood (Sabb. 78, 1). Even *hypnotism* was resorted to, but without any appreciation of its real nature. By laying on of hands, hysterics were cured of blindness, paralysis, hysteromania, and catalepsy (Joma 84, 1).

The routine treatment, says Anders, of *intermittent and remittent fevers* by the Winnebago and Dakota Indians is an emetic or cathartic, followed by a vapor bath in the sweat house and then a cold plunge. The after-treatment consists in a tonic made by decoction of the willow. In *rheumatism* they rely almost wholly on the vapor bath, also the black cohosh (*cimicifuga*) in decoction, treatment hard to improve on to-day.

For *mucous enteritis* and *dysentery* they rely entirely on decoction of buttonwood bark (or American sycamore), which Anders says is singularly effective in their hand. They also use *Geranium maculatum* (cranesbill) successfully in *diarrhea*.

H. M. McClanahan,[45] who lived among the Gros Ventres and Assiniboine Indians, says they have learned by observation that it is necessary that the skin, bowels and kidneys should perform their several duties. They induce perspiration most effectually by means of their sweat houses. These are about 4 feet high, 8 feet in diameter, and sunk one foot below the level of the ground. In the center of the dug-out, which is covered almost air-tight with blankets, are placed very hot stones, over which hot water is poured, and the occupants of the bath thus get a steam bath. (Observe how the Turkish bath is foreshadowed.) Then, unless it be freezing weather, the bathers go from the bath to the river and plunge in. To produce catharsis, they sometimes resort to abdominal kneading to excite peristalsis as we do to-day. In suppression of urine, small heated stones are placed under the patient's back, failing in which the steam bath is resorted to. Recognizing that an unarrested hemorrhage means death, they use compression and spider's web, the latter to favor clotting of the blood.

R. H. True[46] says that in the seventeenth century, the wife of the governor of one of the Spanish colonies (Peru), west of the Andes was attacked by malarial fever, and seemed likely to die. The natives gave to a Jesuit missionary, who worked among them, bark from a certain small tree, telling him to grind it up and give it to the countess at regular intervals. She recovered and, being of a philanthropic disposition, obtained a quantity of the powdered bark and sent it to Europe for use among the poor. In due time, the trees and plants were botanically investigated and named by Linnaeus, in honor of the house to which the countess belonged, "Cinchona."

The Aconitum[47] of the Greeks and Romans refers in all probability to the *Aconitum napellus*. The ancients were well aware of the poisonous properties of the aconites. It was used by the ancient Chinese[48] as an arrow poison, and is still in requisition among the less civilized of the hill tribes of India. Something of the kind was in vogue among the aborigines of ancient Gaul.[49] "The use of *buchu leaves*[50] was learned from the Hottentots by the colonists of the Cape of Good Hope." At a very ancient date *camphor* seems to have been a well-known medicine among the Chinese, and *menthol* among the Japanese.

Coca leaves[51] were cultivated by the Incas prior to the Spanish invasion for use on long journeys, to ward off fatigue. This fact drew the notice of Europeans and the discovery of coca and cocain resulted. W. G. Mortimer[52] states that there is a custom among the Peruvian natives of opening old graves for the purpose of recovering sacred relics. When these old graves are opened, although there is no apparent odor, those who explore them are very apt to get a sore throat from inhaling the vapors or impalpable powder into which the bodies fall as they are exposed to the air. It has long been a custom to fortify against this condition by the use of coca, thus illustrating the intuitive adaptation of a native remedy empirically which it has required long years of study to apply since in a scientific way in the treatment of throat troubles.

Zelia Nuttall[53] takes the following from an unpublished manuscript in the Royal Library at Madrid on the customs of the ancient Mexicans: "Inflammation of the gums is cured by lancing them with an obsidian knife and rubbing in a little salt with the finger. Or heat a red pepper or capsicum and press it along with a grain of salt as tightly as possible on the painful spot. If these remedies do not suffice, draw the tooth and put a little salt into the hollow place." It is certainly interesting to find, in ancient Mexico, the employment of the modern *capsicum* toothache plaster, and to realize that centuries of experience had taught the natives the value of capsicum as a counter-irritant and of salt as an antiseptic.

There is no doubt that the use of *collodion* as a flexible antiseptic dressing is foreshadowed in the way these same Mexicans burned wounds (cauterized them) and then covered them with the melted juice of the *ulli plant*—the india rubber plant. All this was prior to the Spanish Conquest.

Curare, under the various names of curara, woorara, wourali, etc., was used by the natives of Demarara and the valley of the Amazon to poison their arrows. T. L. Brunton[54] says that an animal wounded with one of these arrows soon lags behind the rest of the herd, and quietly dies without any sign of suffering, appears, indeed, to go quietly to sleep. After the animal was apparently dead, however, it was found by Europeans whose notice was drawn to the subject that the heart could be felt beating vigorously for a considerable time, and if an artery were cut across the blood was ejected forcibly from it. It therefore occurred to Sir B. Brodie in 1812 that if he could keep up the respiration until the poison was eliminated the animal could be saved. This was done, and a most valuable agent for physiologic experiment discovered.

The forerunner of *tannic and gallic acid* as applied to hemorrhages may be found, according to Dr. D. Mitchell,[55] in the use made of the decoction of oak-tree leaves in hemoptysis.

Jaborandi leaves,[56] collected in the Amazon Valley, first attracted the attention of explorers by its use in the hands of natives as a remedy for snake bite.

The *Kola nut* is made of much use by the African natives, who attribute to it divers medical properties. For instance, the nuts are used for their stimulant sialagogue and stomachic properties. The Africans[57] chew them, much as the Brazilians do coca, and ascribe to them quite as marvelous effects. These latter are found to be almost wholly due to the caffein which is present in the proportion of about 2 per cent.

A decoction of willow bark[58] was used by the American Apache Indians for intermittent fever. Our *salicin* is derived from this source to-day.

Strophanthus,[59] a remedy now widely used for heart troubles, was first brought to the notice of explorers of equatorial Africa as a very deadly arrow poison, so deadly as to paralyze the heart by means of the smallest wounds.

A. J. Currie says that Pliny (xxiv 9) gives numerous instances of the use of herbs by the ancient Celts,[60] e. g., hyssop for diseases of the eye. Broom-top, juniper and foxglove have long been known as remedies for dropsy, and, in suitable cases, with good results. For the cure of "white lights," an old Scottish name for pulmonary tuberculosis, nourishing food and fat substances were found to be of great vaue. *Oil from the blubber of the seal* was recommended.

About the time of Herodotus[61] the acquaintance of the lay people with simples appears to have been considerable; for example, the diuretic powers of *squill* in hydropsic complaints and the effects of the salts of *iron* on disorders arising from a want of proper tone in the system.

Dr. Justus Sinexon of Philadelphia (personal communication) in the forest of northwestern Maryland observed the guides eating *May apple* and chewing with it birch leaves to prevent griping. Dr. E. W. Kelsey of Philadelphia (personal communication) during his stay in the Klondike, found that the Alaskan natives used a decoction of *green fir boughs* as a remedy for scurvy.

In many instances the extraction of the essential principle of the plant which was first discovered by the non-medical was made by chemists who were not physicians, and who derived their zeal for research from pure science rather than from therapeutics. This is especially true of the alkaloids, among which are atropin, brucin, cathartin, cinchonin, cystisin, delphin, digitalin, emetin, gentianin, lupulin, morphin, narcotin, picrotoxin, piperin, rhubarbarin, scillitin, solanin, strychnin, veratrin.[62]

E. T. Williams[63] states that, so far as we know, Moses was the creator of preventive medicine, an idea thought to be peculiarly modern. From whatever source the fragments of his system may have been derived the system was his own and that of the Powers which guided him. The notion of promoting health by preventing sickness was the foundation stone of the Jewish sanitary legislation. The prohibition against pork, considering the heat of the climate and its liability to be diseased, must be considered as a safe provision, especially in the light of present-day histology and trichinosis. The laws concerning "issues" or discharges from the genital organs, both of men and women, display similar wisdom. The laws concerning leprosy were strict. Every suspect had to present himself to the priest. If the diagnosis was doubtful, he was shut up for a week or two and then re-examined. Articles of clothing worn by lepers had also to be submitted. If found diseased they were burned. If doubtful they were washed and re-examined at the end of a week, when they were either burned or pronounced clean. When the walls of a house were attacked the affected parts had to be torn down and carried to a refuse heap outside the city. The remainder of the wall was thoroughly scraped, the scrapings themselves being carried out of the city and the broken places rebuilt with fresh materials. If these means proved insufficient the whole house was demolished and the debris removed from the town. Modern science may have discovered simpler methods of disinfection, but certainly nothing more thorough or effective. The object of circumcision is nowhere stated in the Bible. It probably does good by (1) reducing liability to venereal diseases; (2) as a preventive of masturbation; (3) by preventing phimosis and paraphimosis, and (4) it probably promotes continence by diminishing the pruriency of the sexual appetite.

Medicine, W. C. Bitting[64] says, never was a science among the Hebrews. Before the Exodus the hints of medicine are very scarce. For 430 years, however, the Hebrews were in bondage to the most enlightened people of the world. Herodotus (ii, 84) says of the Egyptian physician: "The medical practice was divided among them as follows: each physician was for one kind of sickness and no more; and all places are crowded with physicians, for there are physicians for the eyes, physicians for the head, physicians for the teeth, physicians for the stomach, physicians for internal diseases." Obstetrics among the early Hebrews was left entirely to the midwives (Genesis xxxv, 17). Ophthalmia with resulting blindness was not uncommon (Lev. xix, 4—Deut. xxvii, 18); leprosy was known in all its forms (Lev. xiv, 3—xxvii, 4—Numb. xii, 10, etc.); apoplexy cut down its victims (I Saml. xxv, 37); consumption thrust its ghastly symptoms into family life (Lev. xxvi, 16—Deut. xxviii, 22—Is. x, 16); rheumatism and gout twisted the joints of high livers and perplexed men as much then as to-day (II Chron. xvi, 12—Jno. v, 2, 3); epilepsy threw men into foaming fits (M. R. xix, 17—Luke ix, 38); atrophy of limb produced deformity (I Kings xiii, 4-6—Matthew xii, 10-13). In the matter of treatment, the materia medica was scanty. Balsam (Jer. viii, 22—xlvi, 11) was a favorite drug for external application, probably effective because it was a terebinthinate and therefore antiseptic. Wine because of its alcohol was also an antiseptic.

Purging was in vogue (Prov. xx, 30). Music was used to quiet Saul in his spells of acute mania (Sam. xvi, 16), which is quite in advance of many of our methods of to-day.

Moses[65] seems to have had great knowledge of medicine. In the book of Leviticus (xiii, 3-20) we find his three cardinal principles which to-day are utilized in the management of contagious diseases, namely, differentiation, isolation and disinfection. In Leviticus iv to xxvi one can not but be struck with the directions for preserving individual and public health; the selection of portions of creatures for sacrifice and rejection of those parts of the economy whose functions are the removal of impurities or excretions; the disposal of filth in such manner that it might contaminate neither air nor water; the disposal of the dead; disinfection and purification of clothing and dwellings, and the laws of quarantine.

In hygiene, says Bitting,[66] the Mosaic medicine is supreme. The priests were skilled in preventive medicine.

It was their duty to inspect and enforce sanitary arrangements. The history of the Hebrew race is singularly free from epidemics. Diet was carefully regulated. Pork was forbidden. To eat blood was a crime. Everything had to be washed before being cooked (Mark vii. 4—Lev. i, 9). Bathing was compulsory on those who had touched a leper, or those with any issue or flux (gonorrhea) or who touched anything that the diseased had touched (Lev. xv, 1-13), all men and women after copulation, women after menstruation—indeed, they ought to have been the cleanest people on earth. No doubt their freedom from venereal disease was due to these precautions added to the cardinal one of circumcision.

The sick were isolated as far as possible (Lev. xiv, 33-45). The lepers were kept outside camps and cities and away from the highways (Lev. xiii, 45, 46); the house in which leprosy originated was entirely demolished (Lev. xiv, 33-45); a little loss of real estate was cheerfully suffered rather than endanger the public health.

The camp sanitary regulations were the very best. Every man was his own scavenger. All refuse from the slaughter of animals was burned outside the camp (Ex. xxix, 14—Lev. iv, 11—viii, 17). Even the very spoils of war as well as the soldiers were to be disinfected before entering the camp after battle (Numbers xxxi. 21-24). What was not inflammable must be bathed in fire to cleanse it and everything else had to be washed in water.

From the Mishna (or Jewish traditions)[67] we learn how carefully all unclean things were removed from the vicinity of Jerusalem and the temple; and the investigations of Signor Perotti in that ancient city have revealed how complete were the systems of sewers and the means of sewage precipitation and disposal.

The Egyptians, says Herodotus (Vol. ii, Chap. 42), were particular in preventing anything remaining above ground which by putrefaction could taint the air; and this was the reason of their obliging every town to embalm whatever died there. . . . . To pollute the Nile with dead carcasses would have been in the highest degree inconsistent in a people so particular on this point. The Persians, Herodotus tells us (Vol. i, Chapter 139), never defile a river with the excretions of their bodies, nor even wash their hands in one; nor will they allow others to do so, as they have great reverence for rivers.

Herodotus tells us (Chapter 188, Vol. 1):

The great king, Cyrus, when he goes to the wars is always supplied with provisions carefully prepared at home; and with cattle of his own. Water, too, from the river Choaspes (the modern River Kerkhah) is taken with him for drink. Wherever he travels he is attended by a large number of 4-wheeled cars, drawn by mules, in which the Choaspes water, *ready boiled for use and stored in flagons of silver* is moved with him from place to place.

The Greeks were evidently familiar with the purifying nature of *sulphur*, for Homer makes Ulysses say:[68] "Bring me, old woman, sulfur—the remedy for impurities—and bring me fire that I may fumigate the palace."

From all of these instances, and more that might easily be added, it would at first seem as if the discovery of new medical truth were almost hopeless. So much of our new knowledge is old, so much not true, that the common practitioner feels discouraged in any attempt to make additions to the existing body of truth. But to me, the lessons of these things cited are most encouraging, and should inspire the simplest mind with hope.

1. The plainest moral to be deduced is that a large deal of the ancient wisdom is really wisdom. It has been an egotistic habit to republish the nonsense and quackeries and superstitions of medical history as conceited proofs of how superior we are to our forbears. This was as foolish as it was untrue. We are not so mightily superior as we think. When we are really so we shall not boast nearly so much. Neither have we by any means learned all that the ancients and barbarians have to teach us. Modern armies and cities could still learn a great deal from Moses, one of the greatest men, and certainly the very greatest sanitarian of all history. And just at the present time one can not help feeling that the old, unused truth is often of more importance than the new one. The death rate is twice as high as it would be if we should give society the benefit of the medical truths discovered long ago, but which in our rage and race for new discoveries we have disregarded. We most urgently need the rediscovery and the practical use of the old truths. My own specialty, ophthalmology, has literally gone to seed, especially in the old countries; and there is no new discovery in any department of medicine of late years that will to a small degree lessen human suffering as would a rediscovery of astigmatism and a practical utilization of its relief.

2. It is remarkable that savages and barbarians have learned so many great medical truths and are so successful in the treatment of their diseases. With all their neglect, superstition, ignorance and crudity they have managed to get hold of many important verities, especially in things that do not appear on the surface of their lives, and are not observed by the superficial traveler. If our explorers were only medical men, or even if they were alive to the great need of accuracy and thoroughness in reporting facts of medical and hygienic value, we would learn much more than we have from them.

3. We are also incited by our illustrations to a more keen observation of the common people about us, even of old women and quacks. Even these have their uses, and are not altogether without perception of medical facts. No less a person than Professor James of Harvard College (and he was educated as a physician) opposed the passage of a medical practice act in Massachusetts, because he thought it might prevent the discovery of new medical truths by the people. I think he was ludicrously stupid, but he does not think so. There is nowadays little danger of the loss of new truth by the elevation of the educational standards of the medical profession. Genuine education teaches us that undiscovered truth lies all about us, and that the lowliest may not be scorned. Every eager and genuine student must necessarily be a discoverer. No disease has been exhausted. It still has secrets, and we should not fear the silly sneers of the over-self-satisfied, who rail at empiricism, for empiricism has given us our most valuable discoveries in medicine.

4. And the method by which we are able to make these discoveries is by careful and accurate observation. We must, in a way, exemplify in medicine the method of Sherlock Holmes, or better, of Zadig, as deduced from Voltaire's story by Huxley. We are prone to leave this method to the professional scientists and discoverers—and even, alas, to the quacks and scamps.

The striking lesson also appears that only by the unifying and systematizing power of modern science do the single and scattered discoveries of the world become of use to all. In all the instances cited it will be noted that prior to the rise of modern science no one people had

the benefits of the discoveries made by others. Each was held in the bondage of medical barbarism, because whatever single or discrete truths were known the great mass of truths were not known, and so there was no grand or general progress. By taking all that was good in all parts of the world and systematizing them to a common beneficence our science has at a stroke already largely lifted the world out of its course of disease and is every day lowering the death rate, which is, as it were, the thermometer of social welfare, more and more rapidly.

"One of the greatest losses in medicine," says T. Lauder Brunton,[59] "is the loss of individual experience. Men, most able and successful in the practice of their profession, die and carry their knowledge away with them. Some men record the cases they have seen, but comparatively few are able to record their experience in such a way as to make it thoroughly available for others. Science takes each contribution and gives it to all." An admirable example, further continues Brunton, of the application to medicine of the method of "tracking" (method of Zadig) used to be told by Dr. Milner Fothergill:

> A surgeon, Mr. X., wishing to see the working methods of a celebrated quack, desired of the latter to be present some day at his office. The quack, much flattered that so great a man should patronize him, readily acceded to his request. Shortly after Mr. X. had taken his seat, a woman came in with a bottle of urine which she handed the quack. He looked at her, then at the bottle, held it up between him and the light, shook it and said: "Your husband's?" "Yes, sir." "He is a good deal older than you." "Yes, sir." "He is a tailor." "Yes, sir." "He lives at Scarcroft." "Yes, sir." "His bowels are obstinate." "Yes, sir." "Here," handing her a box of pills, "tell him to take one of these every night for a week, and a big drink of cold water every morning, and he will soon be all right."
>
> No sooner had the woman gone out, than Mr. X. turned to the quack, curious to know how he had made out all this. "Well, you see, she was a *young* woman, and looked well and strong; so I guessed the water was not hers. As I saw she had a wedding ring on her finger, I knew she was married, and I thought the chances were it was her husband's water. If he had been the same age as she was, it was hardly likely he would have any illness, so I guessed he was older. I knew he was a tailor because the bottle was not stopped with a cork but with a bit of paper rolled up and tied around with thread in a way no one but a tailor could have done it. Tailors get no exercise, and are therefore apt to be constipated. I was quite sure he would be no exception to the rule, so I gave him 'opening pills.'" "But how did you know she came from Scarcroft?" "Oh, Mr. X., have you lived so long in Leeds, and don't know the color of Scarcroft clay? It was the first thing I saw on her boots when she came in!"

5. And it is not only the intellectual, the learned, the laboratory worker who can discover the new or rediscover the old. There is even more chance for the busy daily practitioner if he will only keep his eyes wide open and not be swayed by custom and fashion from seeing the hitherto neglected, and from ferreting out its ignored or unsuspected significance. The method of Zadig is at the disposal of the plainest country physician. He sees or may see the facts at first hand which the laboratory physician too often is prevented from actually seeing at all. And there is a perfect reason why to the end of time the individual discoverer can never have his opportunity taken from him. It is because every organism, every patient, differs from every other in the world. The protoplasm of everyone's body differs in chemical construction from that of every other. Each master's footstep is known by his dog, its scent being different from that of every other footstep in the world. Albumin has never been correctly analyzed, never analyzed twice alike. Each patient's disease is therefore peculiar and individual. Our large classes of disease are only rough generalizations, as each nation and race will have its typical protoplasm; thus all true discoveries and treatments must be individual, and the *science* of medicine can never conquer or render negligible the *art* of medicine. When our therapeutics becomes absolute and certain each patient must be treated differently. All the general truths and theory can never discover all the truth of the individual case.

6. And not only may we in our pride unsafely ignore the lay-world, far removed in time, space or culture; we are just as wrong-headed if we think there is not a subtle and even splendid medical wisdom in physiology and pathology, in the mechanism's adaptations, the healing powers and the teleologies of the tissues and organs of all living bodies. The number of articles of our materia medica derived from the animal body is so great that I can not even enumerate them here. Much of modern medical laboratory science is an attempt to rediscover the methods Nature has taken to prevent or cure disease by secretions and devices whose intricacy and ingenuity astonish us. The advance of serum therapeutics and the use of the extracts of the ductless glands are instances.

Immunity, as we have seen, is a device of Nature. We are really only now relearning its laws and taking advantage of them. Disease in the making is often discoverable in the study of habits, for we know, although we are too prone to forget it, that function always precedes structure, and that therefore malfunction always precedes organic disease. It is a truism that every device of civilization has been previously invented and used by what in our materialistic day we are foolishly likely to call "unconscious" nature.

Viewed simply as a machine for the utilization of force, every animal body is vastly superior to man's most perfect engine. In the steam boiler and engine from one-quarter to three-quarters of the heat is wasted, and in our fireplaces and stoves about 90 per cent. In our lamps but a small fraction of the energy goes to the making of light. If we could make light as inexpensively as the glow-worm and fire-fly! If our electric machines were one-tenth as perfect as that of the electric eel!

And if this is true to the physicist, how much truer is it to the physiologist, the physician and the pathologist! The Deity of biology and of therapeutics long ago discovered the methods of cure and of the prevention of disease which we are slow in working out with our most advanced science. He calls each of us to be His co-worker!

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"Brethren and Students—I am going to open to you some notable discoveries I have made respecting the source or primary cause of all diatempers incidental to the human machine; and these, brethren, I attribute to certain animalcule, or piscatory entities, that insinuate themselves through the pores into the blood, and in that fluid sport, toss, and tumble about like mackerel or codfish in the great deep; and to convince you that this is not a mere *pratis dictum*, an hypothesis only, I will give you demonstrative proof. Bring hither the microscope! . . . Take a peep. . . . Those two yellow drops were drawn from a subject afflicted with the jaundice— What d'ye see?
Lust.—Some little creatures like yellow flies that are hopping and skipping about.
Hel.—Right. Those yellow flies give the tinge to the skin, and undoubtedly cause the disease; and now for the cure! I administer to every patient the two-and-fiftieth part of a scruple of the ovaria or eggs of the spider; these are thrown by the digestive powers into the precordy, there separated from the alimentacy, and then precipitated into the circulatory, where finding a proper nidus or nest, they quit their torpid state and vivify, and upon vivification, discerning the flies, their natural food, they immediately fall foul of them, extirpate the race out of the blood, and restore the patient to health.
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The case I witnessed happened in March. It is now the 3rd day of July. The wounds have healed and the men continue in good health. The natives even go so far as to maintain that if this remedy be given to a man already stricken with hydrophobia, it will infallibly cure!
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THE SINGLE CUFF METHOD OF CIRCULAR ENTERORRHAPHY:

A NEW METHOD.*

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A NEW METHOD.

A consideration of the evolution in the methods of circular enterorrhaphy occurring in the past seven centuries, with the use of mechanical devices and sutures, and by the suture methods alone, is indeed interesting.

The goose's trachea of the four masters, wood canula, dried intestine, Scarpa's tallow candles, Watson's gelatin tubes, Chopart and Sabatier's prepared cardboard, later, Senn's bone plates, Paul's bone tube, Ashton's rubber rings, Murphy's button, Jessett's bone tubes, Brokaw's segmented rubber rings, the potato cylinder, the forceps of Laplace and others, the rubber bulbs of Treves, represent the progress in mechanical devices; while the Glover suture and the open treatment of the wound, Jober's method, the Lembert suture, the Czerny-Lembert, the Maunsell method, Chaput's method, the Harris method, Kummer's method and the Connell suture, represent the progress in suture methods.

Considering the multiplicity of methods now in use, by mechanical devices and by suture, leads one to conclude that circular enterorrhaphy is still in an evolutionary state, that an ideal method had not as yet been devised.

Since Richat, Richerand and Treves, in the early part of the nineteenth century, taught that union is more readily obtained between serous surfaces than between mucous surfaces or beween serous and mucous surfaces, nearly all of the methods that have since been originated have adhered to the principle of obtaining union of serosa to serosa. The Lembert suture, placed through serosa, muscularis and submucosa with the knot outside of the lumen of the bowel, is probably the most universally popular method of suturing. Yet it must be admitted that closely placed sutures of this character in pathologic states of the bowel are often defective, because of pressure necrosis. The method is slow of accomplishment, also requiring great skill in placing the sutures through the submucosa without penetrating the mucosa. Should the mucosa be penetrated, a new danger is added, that of capillary oozing. By this method a diaphragm is formed within the lumen of the bowel, lessening to some extent its caliber. All of the methods

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in vogue which adhere to this principle produce a diaphragm within the lumen of the bowel, and some of the late methods have added to the danger of pressure necrosis, and have contributed a new danger in placing a foreign body within the lumen of the bowel, an occasional source of secondary leakage from necrosis, ileus, perforation and peritonitis.

Some of these later methods, however, possess the great merit of being time-saving measures, which must be recognized as extremely important in cases demanding resection of the intestine. Chaput, in 1889, developed an operation termed circular enterorrhaphy by abrasion and application, in which he coapts denuded mucous surfaces, demonstrating that permanent union may be thus obtained. Robinson, in 1891, in a paper entitled "Circular Enterorrhaphy by a New Method," demonstrated union between serosa and denuded mucous membrane. Robinson's method, as well as Chaput's, does not produce a diaphragm within the lumen of the bowel. Harris, in 1892, presented a method involving the same principles as Robinson's method, with, however, an improved technic, in that he does not use a

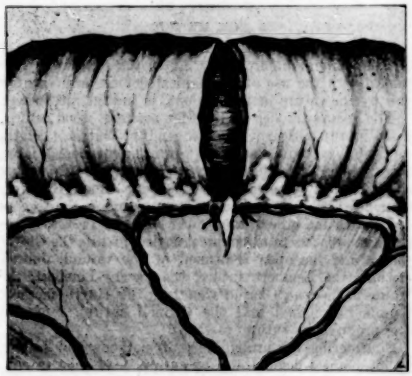

Fig. 1.—The mesenteric arteries are ligated, and a knife is passed through the mesentery and made to encircle the bowel, cutting through serosa and muscularis.

foreign body within the lumen of the bowel. Harris has also, besides extensive experiments on the dog, applied his method to the human intestine, demonstrating sero-fibrinous union. The requirements to be met in an ideal method are:

1. The union of the severed ends of the intestine by a method which provides against immediate and secondary leakage from the intestine.

2. The method must be applicable to pathologic conditions, as well as to the normal intestine.

3. Lessening of the caliber of the bowel at the site of union should be obviated.

4. Rapidity of execution.

I wish to present a method which, in my opinion, meets all of these requirements. The character of union obtained is serofibrinous.

DESCRIPTION OF METHOD.

The intestine is drawn out through the abdominal incision and its course determined. The contents of the intestine are stripped downwards and tapes or clamps applied. The mesenteric arteries are ligated. A knife is passed through the mesentery and made to encircle the bowel, cutting through serosa and muscularis. A cuff of serosa and muscularis five centimeters in length with the mesentery, is rolled back by means of gauze dissection on the distal portion of the bowel, which is well protected with gauze. The bowel thus denuded is severed at its distal end within one centimeter of the cuff. At the proximal end it is severed flush with the primary incision. Eight through-and-through sutures, the knots placed within the lumen of the bowel, unite the proximal end of the bowel to the denuded stump at the distal end.

The cuff is now rolled over the site of union on to the proximal end of the bowel and made secure by a suture placed through the mesentery close to the bowel and three interrupted sutures placed in the cuff through serosa and muscularis of the underlying bowel.

PRINCIPLES INVOLVED IN THE METHOD.

The cuff completely covers the sutures placed through the proximal end of the intestine and the stump of the distal end, so that leakage can not occur, as plastic lymph and blood agglutinate the cuff to the serosa of the proximal end of the intestine.

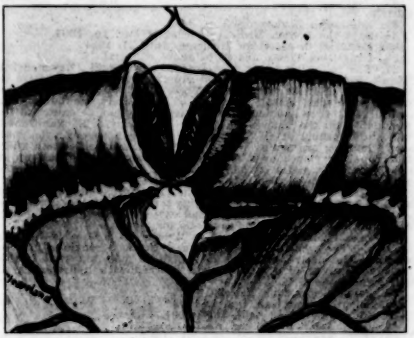

Fig. 2.—A cuff of serosa and muscularis with the mesentery is rolled back on the distal end of the bowel, by means of gauze dissection. The denuded area is severed at the distal end within one centimeter of the cuff, at the proximal end flush with the primary incision.

There can be no increase of tension on the sutures placed through the proximal end of the intestine and the stump, on the resumption of peristalsis, because of the rapid union between the cuff and the serosa of the proximal end of the intestine. The caliber of the lumen of the bowel at the point of union is unchanged.

ARGUMENTS IN FAVOR OF THE METHOD.

1. It is practical, easy of accomplishment and quick of execution.

2. It is the most natural way of uniting the severed ends of the intestine.

3. The cuff so covers and protects the sutures placed through the proximal end of the intestine and the stump of the distal end that the direct line of leakage and infection is obviated.

4. Pressure necrosis and leakage is not probable, and union is quite certain, as the blood supply to the cuff and the proximal end of the bowel that is covered with the cuff is undisturbed.

5. It is the most rapid of all methods, requiring but from five to eight minutes for its complete accomplishment.

6. It is the least complicated of any of the different methods now in use, and it can be safely performed by the ordinary surgeon, who rarely is called on to resect an intestine, quite as well as one greatly skilled in intestinal surgery.

7. Convalescence is more rapid and fewer post-operative sequelæ are likely to occur.

8. It is applicable to any part of the intestinal tract.

9. The security against primary and secondary leakage, furnished by the cuff, makes it the safest of all methods.

RESULTS OF EXPERIMENTS ON DOGS.

I will now submit a report of the pathologic findings following operation in specimens of union secured from dogs. There were four specimens examined, viz., two days, four days, eight days and thirty days, following the primary operations. The following is a report from the Columbus Memorial Laboratory, Chicago, by Prof. W. A. Evans:

SPECIMEN 1 (The two days' specimen).—This is a piece of small intestine, with mesentery attached. It is 5¼ cm. long.

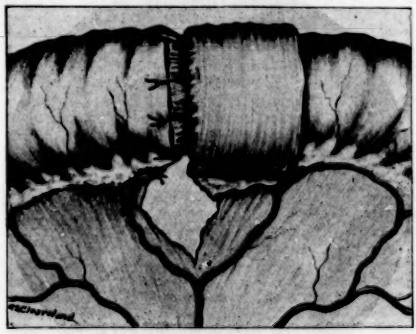

Fig. 3.—Eight through-and-through sutures are placed through the proximal end of the bowel and the denuded stump of the distal end.

Near the center of the specimen is a discolored area 2¾ cm. long. Four circular incisions were made, one just above the discolored area, two through it and one just below it. A circular piece showing the convexity of the bowel was removed from just about the middle of the discolored area. At this point there is about ½ centimeter between the outer and the inner circular muscle coats. A second longitudinal section was taken through the line of juncture between the red and white at its proximal end.

SECTION A.—This is through the farther end of the cuff. Our sections are made lengthwise of the intestines. By microscopic examination we find the following: The mucous coat shows villi glands and other mucosa structures normal in every particular. The muscularis mucosa is normal. The submucosa is normal. It is rather thick just at the point of examination. This coat is quite thick, owing to it being the seat of a mucous fold. The circular muscle coat shows slight infiltration with leucocytes. The longitudinal muscle shows the same as the circular. Outside of the longitudinal muscle is a thin zone of mixed connective tissue fibers, fibrin, red and white blood cells. It is the union between the inner muscle tunic of the cuff and the serosa. It is as firm as it should be. This layer is about 1/10 as thick as the longitudinal muscle. Cuff circular coat is somewhat more inflamed than is the inner. Cuff longitudinal coat is somewhat more inflamed than the inner longitudinal. Cuff serosa does not show very well in sections.

CONCLUSIONS.—Union is good between the cuff and the underlying intestinal wall.

SECTION B.—This is a section made from near where the mucosa and the submucosa of one side was stitched to the wall of the other side. Mucosa: This coat shows villi glands and other mucosa structures. It is quite normal. At four points just on the mucosa side of the muscularis mucosa there is a moderate inflammatory reaction around the thread fibers. There are some leucocytes among those fibers. The muscularis mucosa is in two coats. In the submucosa there is moderate inflammatory reaction, especially along the vessel radicles. One thread is partly in this coat and partly in the mucosa.

INNER CIRCULAR MUSCLE.—This muscle shows one thread puncture just about its juncture with the longitudinal muscle. This layer shows a fair amount of inflammatory reaction along the vessel radicles.

LONGITUDINAL MUSCLE.—This shows about the same amount of inflammatory reaction as the circular coat. Outside the longitudinal muscle is the layer of fibrinous adhesions. This layer is four millimeters thick as it appears on the slide. It is composed of fibrin infiltrated with leucocytes and larger cells with considerable perinuclear protoplasm. In this district the thread shows at several places.

CUFF.—Circular muscle fibers show considerable inflammatory reaction and extravasation of blood. The cuff longitudinal muscle shows much extravasation of blood and a fair amount of inflammatory reaction. The serosa, except for extravasated blood, is negative.

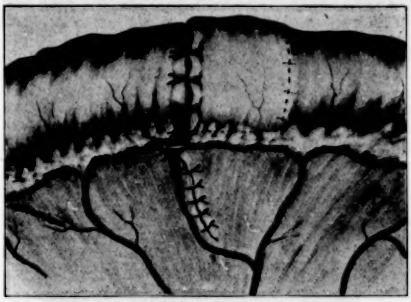

Fig. 4.—The cuff is now rolled over the site of union on to the proximal end of the bowel. A suture is placed through both folds of the mesentery of the cuff close to the bowel above the anastomosing branch of the mesenteric artery, and through both folds of the mesentery of the proximal end of the bowel. Three interrupted sutures are placed through the cuff into the serosa of the proximal bowel.

SPECIMEN 2.—This is a piece of small intestine with partial mesentery attached. It is 8 cm. long. Length of the discolored area in this specimen is 2 cm. The incisions were made just above the discolored area, 4/10 cm. below its upper border, 1 cm. lower down, and three other incisions each 5/10 centimeters apart.

SECTION A.—This extends longitudinally through the intestine at the tip of the cuff. The sections here show the same as in the section marked "Section A, Specimen 1." The photograph shows a very good union, still fibrinous, between the cuff and the underlying intestine. The other layers are about as reported in Specimen 1.

SECTION B.—This is a semicircular section of the convex half of the intestine near the point of union of the mucosa and submucosa, to the mucosa and submucosa of the unstripped end. It is mucosa. The epithelial elements of the mucosa are perfect. In the connective tissue structure of the mucosa is more inflammatory reaction than in

any section yet examined. The muscularis mucosa is in two coats, the longitudinal coat being the heavy one. The submucosa shows considerable inflammatory reaction. The circular muscle is filled with cells of inflammation, the fibers being considerably displaced. The longitudinal muscle shows the same as does the circular. The sections are evidently beyond the point of suture, i. e., in a region not split for the flap.

SECTION C.—These sections are just up the cuff from the line of suture of the mucosa. They show everything shown in "B" and in addition, external to the longitudinal muscle coat, is a coat of fibrous adhesion, and outside of this are the two muscle layers of the cuff.

SPECIMEN 3.—A piece of larger intestine than in the other specimens. The length of the piece is seventeen centimeters. The length of the discolored area is two centimeters. The bowel has been cut longitudinally just above the proximal end about 0.3 cm. below it, 0.5 cm. lower down, 1 cm. lower down, the last being outside the line of discoloration.

Sections were made as follows: A, longitudinal section through the cuff. .B, the convexity of the bowel about the point of union of mucosa. B' near B.

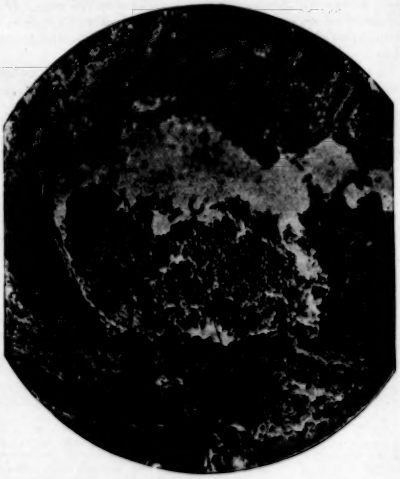

Fig. 5.—*a*, Mucosa. *b*, Muscularis mucosa. *c*, Thread.

SECTION A.—This is a longitudinal section near the tip of the cuff. The mucosa, muscularis mucosa, submucosa and longitudinal muscle are quite normal, showing very little inflammatory reaction. The line of union between the longitudinal muscle and the circular muscle of the cuff shows the following: The space covered is about 50 mikromillimeters. It is filled in by a loose reticular fibrous tissue. The fibers have no uniformity of direction. There are only a moderate number of blood vessels. These are young. There are many cells around the embryonal vessels. The vessels that I identify as such run lengthwise of the intestine. The two muscle coats of the cuff show about as much inflammation as the muscle coats of the intestinal wall. The serosa is thickened by inflammatory reaction until it is about as thick as one of the muscle coats.

SECTION B.—Longitudinal through the point where submucosa and mucosa of one side are joined to the intestinal wall of the other. The mucosa is perfect except for leucocytic infiltration. There is a deep V-shaped dip at the point of union, the apex being toward the muscle. Around the apex of the V runs the muscularis mucosa. The submucosa is also continuous. It is thin at the apex of the V. The circular muscle of the side is continuous and into the other. This is true of the longitudinal muscle and the serosa. The muscle coats of the other side come into the inverted V and turn up to form one of its sides.

They are joined to the circular muscle of the other side by a small amount of fibrous tissue. (The threads are knotted in the lumen and are firmly held in the wall.) All of the coats contain large numbers of leucocytes.

SECTION B.'—Circular beyond the line of sutures. This shows as indicated for Specimen 2, except that there is greater leucocytic infiltration in each of the coats.

SPECIMEN 4.—This was a piece of intestine, split longitudinally. Microscopically we do not find any evidence of the operation procedure, though this is probably due to our not finding the proper area for section. There is a heavy wall of the usual coats. One half or more of the specimen has a serous coat that shows some peritoneal thickening. The other portion is not so covered.

EXPERIMENTS ON DOGS.

I have performed 75 primary operations on dogs, with the following results: 72 dogs recovered and 3 died, a mortality of 4 per cent. The convalescence in every case was short, the dogs being in every instance turned into the general ward at the end of forty-eight hours. The following is a report of the cases that died:

Fig. 6.—*a*, Cuff. *b*, Line of union.

CASE 1.—Dog No. 36 died five days following operation. Cause of death was general peritonitis. The great omentum was infiltrated with blood and pus, and was adherent to the cuff. Free pus was found in the peritoneal cavity. The intestines were not much distended, but were agglutinated together in several places. The site of operation showed the cuff rather dark, but union of the cuff to the underlying bowel wall macroscopically seemed good. A section of intestine involving the site of union was removed, and examined macroscopically, but no evidence of non-union was discovered. The intestine was gently distended with water, but no leakage was found. The cause of death was believed to be an infection from without, due to a faulty technic.

CASE 2.—Dog number 48 died four days following operation. The cuff was distended with blood and pus, a perforation was found in the cuff in the line of union of the proximal end of the bowel to the stump, with positive evidence of leakage.

CASE 3.—Dog No. 62, died thirty-six hours following operation. No evidence of peritonitis. The appearance of cuff was good, and was seemingly well adhered to the underlying bowel wall. On section the intestines were found quite well filled with blood, showing that death was due to hemorrhage.

Thirty dogs were reoperated on at periods varying from two to thirty days following the primary operation, with two deaths, a mortality of 7.5 per cent. The deaths occurring in dogs operated on at the end of forty-eight hours following the primary operation, and in each instance within twenty-four hours.

CONDITIONS OF THE CUFF FOUND.

In nearly every instance there were slight adhesions of the omentum to the cuff. The union of the cuff to the underlying bowel was good in every instance. In one instance the intestine above and below the cuff for a distance of five or six inches was adherent, making a bend in the intestine just below the cuff, but in no way obstructing the lumen of the bowel. In every respect the results were universally good.

WORK ON THE HUMAN.

I have only used this method in two cases, in the one a somewhat modified technic was followed, in the other the same technic, as above described, was adhered to.

CASE 1.—Mr. B., 50 years of age, was operated on Feb. 6, 1903, for the removal of a tumor in the region of the sigmoid flexure of the colon. The tumor, with several inches of the intestine, was removed. The proximal end of the intestine, which was to be covered with the cuff, was denuded of its serosa, so that the cuff came in direct contact with the muscularis. The patient made an uninterrupted recovery. The tumor removed proved to be an adenocarcinoma.

CASE 2.—Miss B., aged 20, had been operated on by the writer five months previously for the relief of chronic obstruction of the bowels, due to tubercular peritonitis. The patient was relieved of the obstruction, improved in general health, and it seemed for a time that her ultimate recovery was assured. Feb. 1, 1903, about five months following operation, she again developed pronounced symptoms of intestinal obstruction. Her condition grew worse from day to day, although slight bowel movements were secured by the use of the high rectal tube. February 12 she had stercoraceous vomiting, and a fecal discharge made its appearance in an abdominal fistula remaining from the previous operation.

Although the condition of the patient could hardly be more extreme, and but little hope could be given her of an operation benefiting her, yet she was desirous of the few chances that it might offer. The abdomen was opened in the median line. The intestines were greatly distended and very much adherent to the parietal peritoneum, and greatly matted together. The site of obstruction was searched for and found. The fecal fistula was located, the intestine just above the site of obstruction was perforated in two different places, so that it was necessary to resect about six inches of it, as it was impossible to attempt its repair. There was no difficulty in obtaining the cuff, the above described method being practiced in every detail. The time occupied for the complete resection was ten minutes. In the further liberating of the adherent intestines a large tear was discovered in a badly ulcerated area, and a second resection of probably four inches of intestine made.

The second resection was a little more difficult on account of adhesions and the extensive pathology in the mesentery; however, it was accomplished in a reasonably short period of time. The patient died at the end of thirty-six hours. A postmortem was denied, so that we can not say as to the behavior of the parts of the bowel united.

The method of operating had nothing to do with the results in this case, as it was evidently hopeless by any method of procedure. It has, however, demonstrated that a cuff can be readily formed of pathologic tissue and that the method is applicable in all cases where resection of the intestine is necessary.

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INTESTINAL RESECTION,

WITH A REPORT OF SIXTEEN CASES: NINE WITH THE MURPHY BUTTON AND SEVEN WITH THE SUTURE.*

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With the exception of small lesions toward the free border of the tube, surgical repair of the intestines usually implies a resection more or less extensive, hence the title intestinal resection has seemed more nearly descriptive of the matter on which it is my purpose to elicit discussion than the more usual term "intestinal anastomosis."

Every surgeon who undertakes even cases of strangulated hernia, intestinal obstruction or penetrating wounds of the abdomen, as well as all who open the abdomen for whatever cause, must be prepared to face, often in the most unexpected manner, a resection or repair of the intestinal canal. In the vast majority of cases intestinal surgery is decidedly emergent. The urgent nature and comparative rarity of such operations in any one surgeon's practice renders a perfect technic exceedingly difficult. To skilfully execute such an operation on a moment's notice under the most varying conditions, and perhaps at rare intervals, is a severe task. These considerations lend the subject a somewhat general interest, and place it among those topics which may be frequently discussed with profit even though nothing new be brought out, every surgeon having reason to frequently review his knowledge and rehearse his technic.

The first difficulty one meets is the great multiplicity of methods and the almost endless novelties of technics and operations from which to select. With the mind so full of many theories, and the preparatory drill spread over endless ways, the operator is in the worst possible condition to meet an emergency. Have we not arrived at a point where we can stop investigating new frills and settle on the simplest procedures with advantage?

During the past six years I have had occasion to resect the intestine 16 times, as follows: For strangulated hernia, 3; for fecal fistula, 3; for sarcoma of the small intestine, 2; for carcinoma of the cecum, 2; for carcinoma of the sigmoid, 2; for intussusception, 1; for gunshot wound, 1; for injury during operation, 2. In these the Murphy button was used 9 times, with 3 deaths; the suture 7 times, with 1 death.

The somewhat prodigious number of methods for uniting the bowel may be first divided into three general classes: First, mechanical appliances, to remain in the intestine; second, pure suture methods; third, special appliances to facilitate suture, and then to be removed.

The latter class, to say the least, belongs to those things which are more ingenious than necessary. For my part I do not use them, for many reasons, one of which is perhaps quite sufficient, viz., as good work may be done more conveniently without as with them.

Mechanical means versus the suture in intestinal anastomosis is often debated pro and con. As a simple general proposition, this is manifestly unjust. Possibly all anastomoses may be made by the suture, but cer-

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tainly in some localities and under some conditions a mechanical means is occasionally preferable. On the other hand, there are many situations and conditions to which mechanical anastomosis is entirely unfitted. Therefore, I conclude that the minimum of methods for good intestinal work is a good mechanical and a good suture method. The practical surgeon will therefore select what he believes to be the best mechanical method and the best suture method, master all the details of each, and be prepared with materials and by occasional rehearsals for the skilful execution of the method best adapted to the situation.

UNION BY MECHANICAL MEANS.

Doubtless any one of several buttons, bobbins, mats or what-not, may be used with more or less success, but increasing experience shows the Murphy button to be on the whole the most practicable. It is cheap, easily preserved indefinitely in readiness and has been used with success and increasing frequency in all parts of the world. Whatever theoretical objections may be conjured up against it, it has probably more success and as few failures to its credit than any other method of anastomosis, when applied properly to proper cases. Of my 9 resections with union by the Murphy button 3 died. One, Case 6, would surely have died despite any method of anastomosis. In one case, No. 9, I was led by the almost moribund condition of the patient to use the large button in an end-to-end union of the sigmoid, though it is generally recognized that the large intestine is not safely united by the button. This death, if due to any operative fault, in no way condemns the button for use in proper cases. In one case, No. 7, an end-to-side anastomosis after resection of the cecum for a very large carcinoma, in a very fat and flabby woman, the death from sepsis and nephritis on the thirty-first day, long after the button had passed, and without any bowel disturbance, makes it probable that the method of union was not at fault. In Case 5 a temporary fecal fistula followed the use of the button in an end-to-end anastomosis of the small bowel, for sarcoma. I have reason to believe that the fistula took place at the mesenteric border. The mesentery was considerably thickened and some difficulty was found in properly adjusting it within the button. Under these conditions either a very much larger amount of intestine should be resected or the suture used instead of the button. The ultimate result in the case has been entirely satisfactory so far as the anastomosis is concerned. In the remaining five button cases the immediate and subsequent course was without any complication.

The duodenum, owing to its fixed position and lack of peritoneal covering, is naturally excluded from end-to-end anastomosis by the button. The large intestine, for many reasons, both anatomic and physiologic, is not adapted to anastomosis by mechanical means. It is less richly supplied with blood vessels, its walls very variable in thickness, the appendices, epiploicæ and its mesentery often thickened and clumpy with fat and considerable portions not covered by peritoneum. Its contents are much thicker and more liable to block mechanical contrivances and its peristalsis comparatively feeble. Hence, with the exception of end-to-side anastomosis between the small and large intestine, the suture should practically always be used. In the unfixed portion of the small intestine, a good union is possible by either button or suture, but, on the whole, I believe the button anastomosis has the most points of excellence: First, it may usually be executed somewhat more rapidly; second, if skilfully applied is evidently primarily as safe in this location as suture. Third. After the button has passed the intestinal wall is left in better condition than by suture. In all suture methods where silk is used there is either for a long time or permanently left in the bowel material with decided possibilities of trouble. With the button, the primary healing once over, the most perfect conceivable condition is usually left and the condition is uniform. As much can not be said of any suture in any case and the results are materially far from mathematically uniform, even in the same surgeon's cases. The most skilful operator will vary a little in the amount turned in and in the regularity of his suture. The mechanism once properly placed cuts by its pressure to the same line. The objections to the button in this locality are mostly theoretical or drawn from very exceptional ill results or cases of faulty technic. When it may be said that any other method is absolutely perfect and without occasional mishap, the practical surgeon may give greater weight to the theoretical objections of a foreign body in the intestine, to isolated failures to pass, or to exulceration of the button, despite the many hundreds of successes at the hands of hundreds of surgeons, many of those of little experience, and the growing tendency of many of the very greatest surgeons at home and abroad to use this method in appropriate cases.

UNION BY SUTURE.

The suture has a much wider application. It may be used in practically all cases to which the button is applicable. In the duodenum and in the large intestines it has for anatomic and physiologic reasons practically the whole field. Hence a surgeon may nearly or quite dispense with mechanical means of anastomosis, but a good suture method is a necessity. While we undoubtedly owe a very large measure of our success to experimental work and the fundamental principles have been thus established, yet experimenters have borrowed an enormous amount of unnecessary trouble about lesser matters of which Nature takes little notice. The necessity of peritoneal approximation, the length of intestine which may safely be resected, the degree of narrowing which is permissible, the difficulties of the mesenteric border, etc., were early elucidated and are essential, but the fears of penetrating all the coats and the special dangers of the knot of elbowing in order to increase the caliber, etc., have been considerably overdone. I feel sure from much personal observation—having followed up individuals for years whose intestines were closed up with very rudimentary needlework—that the fears of some experimenters are not entirely well founded.

Of the 7 unions by suture, 4 were by the Connell method. The Connell suture appeals to me as by far the best suture up to date; first, a continuous suture is the safest; second, penetrating all coats it is the strongest and surest; third, it is a simple set procedure, capable of an unvarying technic from start to finish, with no change of stitch, and no apparatus but needle, thread and fingers; it is capable of greater rapidity than any other method except the button—the easiest and simplest of all, except at its finish. The closure of the last third, and especially of its last stitches, is, of course, somewhat difficult, but after sufficient drill probably not much more so than some part of any competent intestinal suture. It takes the best care of the weak point, the mesenteric border, while the gut is open. With one exception it is, for me, the *ne plus ultra* of intestinal sutures, viz., experimental work and autopsies show that

for a very long time, at least two or three months, the thread remains encircling the bowel wall or hanging into the intestine. While I am unable to point to any serious result demonstrably having followed this state of affairs, it is certainly not an ideal condition, and one which would seem pregnant with as many pathologic possibilities as the shorter stay of a foreign body in the case of a button. It is quite startling to find at the autopsy, thirty-one days after the resection, so much thread imbedded in the whole circumference of the otherwise beautifully restored bowel, as was observed in Case 13.

All the unions were end to end, excepting the two resections of the cecum, where end-to-side anastomosis was employed. When the resected ends can be easily approximated without tension and the mesentery is in a normal condition, end-to-end union would seem to be preferable to lateral anastomosis, as it more nearly restores the organs to normal conditions. Pathologic changes in the mesentery may sometimes render it desirable to close the ends by purse-string sutures and make a side-to-side union. When this is done with but little overlapping so that the blind ends are very short, antiperistaltic union is probably without very serious objection. However, an isoperistaltic union would seem preferable whenever practicable under all circumstances, and quite necessary if the blind ends are of much length. In resecting median portions of the small intestine, it is often difficult to quickly establish with entire certainty which is the proximal and which the distal limb of the loop. If an end-to-end union is to be made this is of no consequence, but in case of a lateral approximation it calls for a decision which further complicates the operation. I would therefore not choose lateral anastomosis except in cases in which some pathologic or anatomic condition of the mesentery rendered the end-to-end approximation unsafe.

CONCLUSIONS.

1. Suture is the most indispensable and generally applicable method of anastomosis in intestinal resection.

2. The Murphy button is equally useful, if not preferable, under certain conditions, but very inferior under others. For the end-to-end union of segments of normal small intestine, or the end-to-side anastomosis of healthy small and large bowel, it gives results unexcelled by any other method. In unions of the larger intestine it is so far inferior to suture as to be practically contraindicated. Pathologic changes in the small intestine or its mesentery which render the perfect application of the button difficult or such as would probably disturb the course of healing, should be united by suture.

3. Of suture methods that of Gregory F. Connell is incomparably the best; is, in reality, the simplest; a single row of continuous suture, all within the gut, the most likely to be even, strong and tight, with the smallest and most even diaphragm, admits of the easiest and most perfect dealing with the mesenteric border and is capable of a simple invariable technic.

4. It is especially desirable to choose the fewest and simplest means compatible with the best work, because intestinal operations occur at rare and irregular intervals as emergencies in the hands of many surgeons, and the little conveniences which enter into highly specialized operations of repeated daily execution are for the most part worse than impracticable.

NARRATION OF CASES WITH USE OF BUTTON.

CASE 1.—Miss H., age 27. Strangulated femoral hernia. Operation only twelve hours after onset of symptoms. Three inches of small intestine gangrenous. Resection of five inches; end-to-end anastomosis with Murphy button. Prompt recovery. The button passed on the eleventh day. No return of hernia. Now, six years after, health perfect.

CASE 2.—Fecal fistula from inflamed umbilical hernia. Mrs. B., aged 46, enormously fat, had a large umbilical hernia of ten years' standing. Three months before coming under my observation symptoms of inflammation and finally of intestinal obstruction had appeared. After eleven days of expectant treatment an abscess had broken through and pus and feces had discharged. A large fecal fistula had since discharged nearly all the bowel contents, only occasionally a little passed per anum. The abdomen was opened, the adhesions separated, the hernial sac and a portion of the omentum was removed, and three inches of small intestine resected. End-to-end union with the Murphy button and radical cure of hernia with silver wire. A large area of eczematous skin around the fistula was excised and the skin closed transversely. The button passed on the ninth day. The recovery was uninterrupted, excepting a slight superficial infection, which did not lead to removal of the deep wire sutures. Her health has remained good, no relapse of hernia and no trouble from the wire sutures at last observation, four and one-half years after operation.

CASE 3.—Fecal fistula. Mr. M., a farmer, aged 32. Had right inguinal hernia of long standing. About five weeks before coming under observation strangulation occurred, and Drs. DuBois and Hilbert of Sauk Center operated, after which the patient did well and was entirely relieved for ten days, when symptoms of strangulation again suddenly appeared. After a week of vomiting and inability to pass gas or feces, Drs. DuBois and Hilbert reopened the wound and incised a knuckle of adherent small intestine forming an artificial anus.

The patient then again did well for two weeks, when obstruction again, for the third time, became complete. I was then called by Dr. DuBois. The patient's general condition was now bad. He was emaciated and weak, and the operative field was rendered uninviting by recent operations and the recent fecal discharges which had constantly bathed and irritated the skin for two weeks. The operation was made at the patient's cottage under poor surroundings. On reopening the abdomen it was found that a small knuckle of intestine which was attached to the abdominal wall and the seat of the artificial anus had twisted on its axis, leading to complete obstruction. This loop was resected and an end-to-end anastomosis made with the Murphy button. The abdomen was closed with figure-of-eight silkworm-gut sutures, and the patient made an excellent recovery with only some slight suppuration in the wound. The conditions for primary union were as unfavorable as could be imagined. I examined the patient two years after the operation and he was well and free from hernia.

CASE 4.—Gangrene due to strangulated hernia. Male, laborer, aged 28. City Hospital. The patient entered with a large inguinal hernia, strangulated since six days. The scrotum was red, swollen and inflamed and the patient profoundly septic. On opening the sac about three feet of small intestine was completely gangrenous. Resection of three and one-half feet. End-to-end anastomosis with Murphy button. The wound was left partly open and the wound and abdomen drained. Death followed in forty-eight hours, due to peritonitis and sepsis. Postmortem showed the anastomosis to be perfect, and that the button was in no way responsible for the death. Probably it was a mistake to have resected at all. Under such conditions again I would lay open the sac without a general anesthetic, and if the patient recovered make a subsequent resection, as in Case 2.

CASE 5.—Sarcoma of small intestine. Mrs. B., musician, wife of a physician, aged 44. In August, 1896, she began to have looseness of the bowels, and ever since off and on had had spells of looseness, becoming worse each year. In November, 1902, she had a very bad diarrhea, which reduced her strength and weight very rapidly. This diarrhea was of a peculiar character, i. e., it was worse after lunch and still worse after dinner and all night, but from 9:30 a. m. to 1:30

p. m. it was not very troublesome. There were usually from eight to ten movements a day. There was no pain, but a very great quantity of gas was passed, the feces very thin and horribly offensive and of the consistency of muddy water. She was very anemic, greatly emaciated and weak.

I first saw her on the first of February, 1902, and on physical examination could distinguish a mass to the right of the uterus and attached to it, which was apparently of the size of a small fist. I suspected the bowel was involved in this mass, and advised exploratory incision. The operation took place at St. Barnabas' Hospital, Feb. 12, 1902. On opening the abdomen this mass was found to consist of a very much enlarged and dilated coil of small intestine attached to the uterus. The mesentery of the intestine was also infiltrated and thickened. I removed eight inches of the intestine and its corresponding mesentery and made an end-to-end anastomosis with the Murphy button. The patient did remarkably well for a few days, but on the twenty-first she developed some temperature. The abdominal wall was opened slightly and a fecal fistula made its appearance. For a few days a large quantity of feces was discharged through this wound. March 4 the patient insisted on being taken in the ambulance to her home. On March 6 the button was passed, and March 11 the fistula closed permanently, and she was up and about the house March 21, from which time she made a fairly satisfactory recovery.

The portion of intestine removed was believed on gross appearances to be a chronic inflammatory process and the specimen was sent to the laboratory of the University of Minnesota. Professor Wilson reported it to be a sarcoma. The patient is still—thirteen months after the operation—in very good health. At the time the union was made considerable difficulty was experienced in bringing the somewhat clumsy mesentery satisfactorily within the button, and I remember using an extra stitch through the mesenteric border and tying it around the button stem. This was doubtless the point where the fistula took place. It might have been better to have resected a much longer loop, thus securing a more normal mesentery or to have used the suture at the point chosen.

Case 6.—Carcinoma of cecum. Mrs. S., aged 36. For several months has complained of pain and tenderness in right inguinal region and of alternating constipation and diarrhea. There is a tumor in the region of the appendix and the condition thought to be some anomalous form of appendicitis, perhaps tubercular. On operation, carcinoma of the cecum was found. About six inches of the ascending colon, the cecum and four inches of the ileum resected. End-to-end anastomosis with the Murphy button. Uninterrupted recovery and health good when last seen, one and one-half years subsequently.

CASE 7.—Carcinoma of cecum. Mrs. L., French, aged 38. Mother of six children, youngest 2 years of age. Previous health excellent, excepting loss of control of bowels from a complete laceration of the perineum. She now wished this repaired, as she had been led to believe it was the cause of her present illness. About one and one-half years ago she began to have pain and diarrhea in the morning, with nausea and pain in the stomach. On examination I found a large woman, a very fat abdomen, and a very large, hard tumor, much larger than two fists, in the right iliac region. Complete laceration of the perineum. Diagnosis, probably carcinoma of the cecum.

Ten inches of the cecum and ascending colon and a portion of the ileum was resected with much difficulty, owing to the advanced stage of the very large growth. End-to-end anastomosis with the button. The button was found in the vagina five weeks later. For two weeks the patient did very well, she then developed temperature, suppuration in the large and deep external wound (the fat was about four and one-half inches thick at this point) and nephritis, dying seven weeks after the operation. No autopsy was permitted, but the death was clearly not due to the method of union, nor, indeed, to the anastomosis at all. The enormous wound in an obese and bad subject became infected, and sepsis and nephritis finally exhausted her resources.

CASE 8.—Strangulated femoral hernia. Mrs. M., aged 46, German. Had been ruptured for several years, and for the last two years the tumor had been irreducible, hence, despite symptoms of strangulation, the patient and her family physician had refused to look on the hernia as the cause of the constant vomiting until the fourth day, when I was called in consultation, and insisted on immediate operation. The sac was chiefly filled with adherent omentum, but a very small knuckle of small intestine had recently slipped in, become strangulated and was found gangrenous. Resection of three inches. End-to-end anastomosis with button, drainage of external wound. Prompt recovery.

CASE 9.—Stenosis of sigmoid from very small annular carcinoma. Mr. B., laborer, aged 45. Entered St. Mary's Hospital in March, 1900, complaining of a recent right femoral hernia, on which I operated, finding the appendix vermiformis and some omentum in the sac. The appendix, omentum and sac were removed, and he made a good recovery. While at the hospital it developed that he had had some slight difficulty in getting his bowels to move satisfactorily, but this seemed to be better on taking some laxative, and he left the hospital at the end of three weeks.

I saw nothing further of him until July, 1901, when I was called by his attending physician, Dr. Ringnell, and learned to my surprise that he had been having increasing trouble with his bowels since leaving the hospital, until of late he was having frequent attacks of complete obstruction, lasting for days at a time and in the intervals getting liquid movements with great difficulty. He was greatly emaciated and thin and seemed almost *in extremis* from pain, vomiting and distension. Chronic obstruction in the lower large bowel was diagnosed and immediate operation urged. The patient, however, stubbornly refused until September 1, when he consented to return to the hospital. He was then very weak and death very near. On opening the greatly distended abdomen a very small annular growth in the sigmoid, less than an inch in extent, was found, reducing the caliber of the intestine to that of a very small lead pencil. The gas and liquid feces were evacuated by introducing a glass tube into the intestine above the growth, and about four inches resected. On account of the almost moribund condition of the patient I chose the large Murphy button for making the end-to-end anastomosis. Death from peritonitis and sepsis in thirty-six hours. Autopsy showed button plugged and a leak from distension. The first mistake was the patient's in refusing operation for months after it was clearly necessary and strongly advised, the second in using the button under these conditions where suture is always indicated.

Thus of the 9 cases united by the button, 3 died, 1 clearly because no resection should have been undertaken—the patient probably would have succumbed in any event, but the only hope would have been in incision of the sac, which might have been done without anesthetic. In one the larger button was used in an end-to-end anastomosis of the sigmoid, and although the patient was in extremis it is quite possible that he might have recovered by the suture. This is the only case in which I have to regret the method of anastomosis chosen. One dies six weeks after operation, with extraperitoneal suppuration in the abdomen and nephritis. There is no reason to believe the method of anastomosis had anything to do with the result.

NARRATION OF CASES OF UNION BY SUTURE.

CASE 10.—Intussusception, necrosis at the neck. A boy, 6 years of age, symptoms of obstruction for eight days. Dr. Glenn was finally called and diagnosed intussusception. On opening the abdomen a large quantity of rather dark serum escaped. About a foot of the ileum invaginated into itself. The neck was at about the point of Meckel's diverticulum, of which there appeared to be a remnant. The invagination was reduced with considerable difficulty and a small necrotic area at the neck necessitated resection of a small portion of the gut. End-to-end anastomosis—Czerny-Lambert suture. Recovery without complication.

CASE 11.—Pistol wound of abdomen. W. J., aged 23. Shot in the abdomen with pistol at short range. Wound of entrance two inches to the right and a little below the um-

bilicus. No wound of exit. Operation twelve hours after injury. Seven perforations of small intestine, closed with continuous Lembert suture. Resection of twelve inches on account of injuries at the mesenteric border. End-to-end anastomosis with Czerny-Lembert suture. Recovery and perfect health two years after.

CASE 12.—Sarcoma of the small intestine and uterus. Mrs. M., German housewife, aged 38. In May, 1901, was taken with cramps in the bowels, pain radiating toward the center. She vomited for eight days more or less and there was much distension and gurgling in the bowels, and irregular diarrhea during the past four months. On examination a considerable tumor attached to the uterus could be made out. It was fairly movable and had been mistaken by several for a fibroid of the uterus. I was not just clear what the condition was, but believed it was primarily uterine with attachment to the bowel, and advised an exploratory incision.

Sept. 7, 1901, the abdomen was opened and a loop of small intestine about ten inches long and its mesentery was found involved in a new growth. This mass was firmly attached to the uterus, which was also invaded by the growth. Recognizing the condition as malignant and probably past successful removal, a side-to-side anastomosis of the two limbs of the loop of intestine above the growth was undertaken. After the button was introduced it was found defective and had to be taken out. I then decided to remove the growth and some sixteen inches of small intestine and its mesentery, the uterus, tubes and ovaries, and a portion of the base of the bladder, which were resected in one piece. End-to-end anastomosis of the resected intestine by Connell suture. The time of the whole operation from entering to leaving the operating room was one and one-half hours.

The patient made a good primary recovery, leaving the hospital twenty-seven days after operation to go to her home in Dakota. Her health was greatly improved for some months. Six months later the growth returned and at last reports she was failing rapidly. The specimen removed was submitted to Dr. White of the pathologic laboratory of the University of Minnesota, who reports it to be a lympho-sarcoma of the small intestine.

CASE 13.—Mr. H. Carcinoma of the sigmoid flexure of the colon; resection of six inches; end-to-end union by the Connell suture. The patient's health had been excellent until about one and one-half years ago, when he began to experience considerable difficulty in moving the bowels, obstruction symptoms not very severe until the past four months; he has attacks of pain before the bowels move, and for the past six weeks it is with great difficulty that they can be moved at all. By taking much physic and repeated enemata he is enabled to overcome the obstruction. The diagnosis was partial obstruction in lower colon, probably from carcinoma. March 4, 1902, resection of six inches of the sigmoid and end-to-end anastomosis with the Connell suture. The abdominal wound became slightly infected superficially with colon bacillus and discharged moderately for ten days, otherwise the after-course was uneventful. March 31 the patient was apparently well, having been up and dressed for two days. He had made all arrangements to leave the hospital for his home, some two hundred miles distant, on the following day, when he was seized with an apoplectic stroke, from which he died April 4, thirty-one days after the operation. Autopsy showed the operation wounds perfectly healed and the anastomosis was perfect with no intraperitoneal adhesions. On dissecting the intestine the whole suture was found intact in the walls of the intestine, forming a circle entirely around it. None of the stitches had so far been thrown off into the bowel.

CASE 14.—Gangrenous strangulated hernia. Sister A., a Little Sister of the Poor. Had a slight femoral hernia of long standing which had been strangulated for at least twenty-four hours. Several unsuccessful attempts at reduction by taxis had been made. On opening the very large sac about ten inches of small intestine was found to be gangrenous. As it was difficult to bring down a sufficient amount of bowel to make a good resection without cutting through Poupart's ligament, the abdomen was opened by a second incision above the ligament in the outer border of the rectus muscle, the operative field in the abdomen well packed off with gauze, the loop drawn into the abdomen and brought out through upper incision, and twelve inches resected. End-to-end union with Connell suture. The hernial sac then removed and hernial wound closed as usual. Uneventful recovery, patient leaving hospital seventeen days after operation.

CASE 15.—Mr. M., a young German farmer, when seen had obstruction of the bowels for four days. His condition was said to have been good until the last six hours, since which he had rapidly collapsed. He had had two very severe attacks of appendicitis ten years before, since the last of which his health had been excellent, until the sudden onset of symptoms of intestinal obstruction. Patient evidently failing rapidly every hour—cold extremities, rapid, feeble pulse, great distension. Nevertheless, the abdomen was opened at his desire. The small intestines were found bound down into the bottom of the pelvis by broad bands, so much so that they appeared to have a mesentery on both sides. The distended intestines could not be turned out of the abdomen on account of their attachment to bottom of the pelvis, hence there was great difficulty in dividing the bands. A knuckle of intestine was so injured that resection of about two feet became necessary, hurried end-to-end anastomosis, with Connell suture rather imperfectly done and reinforced at last third by continuous Lembert. Patient expired within an hour. It is needless to say the result has no bearing on the method of anastomosis.

CASE 16.—Mrs. J., aged 32. Had a violent appendicitis and pelvic suppuration some months previously. The abscess had been drained, but appendix not removed. Recovery never complete. At secondary operation intestines matted together in bottom of pelvis by old, well-organized adhesions, small pelvic abscess; appendix removed and many bands and adhesions severed, finally one knuckle of intestine so injured in several places that resection was deemed safer than isolated repairs in its diseased condition. Resection of almost six inches of small bowel, end-to-end anastomosis, Connell suture. Pelvic drainage. Recovery without complications.

Of the 7 unions by suture, 6 recovered; 4 were by Connell suture, with 1 death from collapse within one hour.

DISCUSSION

ON PAPERS OF DRS. CAMPBELL AND DUNN.

DR. A. F. JONAS, Omaha—The indications for this operation are so plain that they need no discussion, but the methods for doing an end-to-end approximation is a question that involves a multiplicity of ways. The inventive genius seems to be so prominent in American surgeons that no sooner has some one proposed a new method for the relief of any particular affection than the American man is not satisfied to try that particular method, but he immediately goes to work and tries to invent a method, hoping to get something better and something newer. For my own work I have only employed two methods; the first is the mechanical device practiced by Murphy, the second the simple suture. I desire to call attention to four points: The first is to get the approximation of the intestines at the point where it joins; the second, to leave no knots on the outside of the intestines; third, it must be watertight; and, fourth, it must be airtight. Now, with these four things carefully carried out, in a practice requiring a simple form of technic, the simple suture will be the best to use. The only way to do surgery is first to study the pathology, and in the operation do not use any methods that will lead to this pathology in the smallest possible way; if possible, do not use any mechanical devices for the purpose of holding the intestines in position.

Some years ago, Nicholas Senn described in THE JOURNAL of the American Medical Association, fifty or more appliances for the purpose of producing end-to-end union. Of all this long series, there is probably only one that is used to any extent at the present time, and that is the Murphy button. Of all the many sutures with which I have become familiar I employ none but the Connell suture, as it is the most easily applied, most satisfactory, gives the best results and leaves the knots all on the inside, thus giving no opportunities for the subsequent formation of adhesions in the intestines. All the forms of sutures which leave the knots on the outside favor adhesions

with the other parts of the intestines, or with other organs necessitating secondary operation. In order to properly apply any form of intestinal suture we need to practice that form more or less constantly. To do the operation with the Connell suture will require a certain amount of preliminary practice as with any other suture. It is practically impossible for any man to stand beside the operating table and see anyone else perform an operation and then go home and do the work without preliminary practice. What would you say if a tailor simply stood beside another tailor and watched him apply the stitches to your coat? Would you then expect him to make seams accurately and firmly? Why should you expect any more a man to be able to suture an intestine simply from what he reads in books or from standing beside another operator? The Murphy button, simple as it is in its application, must be practiced primarily on the dog, and certain details must be memorized before its use can be undertaken in the human subject. My plan is to use the Murphy button in all cases where the structures can be snugly drawn together between the two parts of the button. Where the structures are too thick, such as the large intestines, I employ the suture method. So far as Dr. Campbell's method goes, I have the objection to it that he still leaves the knot on the outside.

DR. J. SHELTON HORSLEY, El Paso, Texas—In regard to the term "intestinal resection," it seems to me there might be still further improvement. Resection means simply cutting out a portion of the intestinal canal, and has no reference to the subsequent joining of the divided ends, which is really the main and most important portion of the procedure. "Intestinal anastomosis" is also objectionable when applied to an end-to-end union. Anastomosis means that an obstruction in the main channel is compensated for by some more or less indirect route, as in the case of small branches of blood vessels taking up the circulation when there is an obliteration of the main channel. When, however, this obstruction in the main channel is removed and the direct current re-established, as in the case of end-to-end union in intestines, the term anastomosis is clearly inapplicable. "Circular enterorrhaphy" means merely suturing of intestine in a circular manner. In the operation for prolapse of the rectum, in which after abdominal section a portion of the sigmoid is drawn up and sewed to the abdominal wall, if this sewing is done in a circular direction, the term "circular enterorrhaphy" could most assuredly be used. "Intestinal union" is a term that is open to none of these objections and would seem to indicate the procedure.

In regard to the continuous suture, I have had a limited clinical experience in intestinal suturing, but a rather extensive experimental experience, and have found that this form of suttre is by far the most satisfactory. I believe that the majority of operators who have done much experimental work will agree in this. This form of suture has many advantages not possessed by the interrupted. It is a physiologic principle that rest is essential for repair. It is with this idea that splints are used in fractures and wounded parts immobilized as much as possible. The action of a continuous intestinal suture is in the nature of a splint. In end-to-end union, for instance, where interrupted sutures are used, each distension of gas and every wave of peristalsis tends to stretch or relax the portion of intestine between any two interrupted stitches. When a continuous suture is used this strain is thrown, not on the wounded intestine, but on the thread. It is frequently taught, I believe, that all that is necessary to obtain complete union in intestinal suturing is to approximate serosa to serosa. This is certainly a false doctrine, for something else than mere approximation is necessary to obtain satisfactory union in every instance. This conclusion has been arrived at as the result of nine experiments on dogs. In six fine black silk was used and the dogs were killed after one, two, three, four, six and eight days. In three experiments No. 2 braided silk was employed and the dogs killed after four, six and eight days. Two loops of intestine were sutured, as in the preliminary steps of Abbe's intestinal anastomosis, the suture being continuous and running for about an inch and a half in the long axis of the gut. Another row parallel with the first and about one-third inch distant from it was inserted in the same manner. The specimens were removed after the number of days above indicated and sent to a competent eastern pathologist for examination. The condition of the serosa between these rows of sutures was that of perfect approximation, and on account of the continuous suture it would be impossible for this approximation to be disturbed. The pathologist reported that of the first six experiments, in four there had been failure of complete union of that area of intestine included between the rows of suture; in the other two, in which fine silk was used, the union was complete. Of the three experiments where No. 2 braided silk was employed, only one failed to unite completely. The pathologist also reported that there was markedly more inflammatory reaction around the coarser thread. As the conditions of approximation in these experiments were perfect, and as complete union was obtained in less than half of the number, it would seem that something else besides mere approximation is necessary for satisfactory union. Pressure is one of these things that is most desirable and is furnished by such appliances as the Murphy button. This pressure can be obtained by the continuous suture, but not by the interrupted.

DR. H. O. WALKER, Detroit—The methods by which the operation of intestinal resection is to be performed have been outlined by the gentlemen who have read papers and by the gentlemen who have already discussed them. The method given by the first gentleman would strike me as being one (possibly he can do it rapidly) that would take considerable time, while, as the gentleman just preceding said, it leaves some of the knots on the outside. I have had experience with pretty nearly every form of suture and mechanical appliance. I did one end-to-end anastomosis with the Murphy button in the latter part of 1902. I have used the Connell suture in six different cases; one where I removed 14½ inches of the colon, another 8 inches of the ileum, another the ileocecal junction, another 6 feet of the intestine, another at two different points in the descending colon. The first three cases were successful and the last three died, but I do not know that it could have been otherwise, because the condition of sepsis was such as to preclude recovery.

There is no mechanical device that has recently been brought before the profession that is of more value than the McGraw elastic ligature. I have had an experience in 17 cases with that ligature, and in all of the cases it was successful, so far as temporary relief was concerned. Of these 17 cases 122 jejunostomies were performed for malignant disease and 5 for gastroptosis. The use of the ligature as a mechanical appliance is simpler than anything else that we have. Of course, it is not applicable to an end-to-end anastomosis. It can be done quickly and produce no inconvenience. As has already been stated by the former speakers, no man should attempt to use this ligature unless he has practiced either on animals or on the dead intestines. In regard to the application of this ligature, you take a rubber darning needle, about 6 inches long, and be sure that the rubber in the ligature is in good condition, for in those ligatures which have been on hand for a long time the rubber is liable to break. For instance, we are doing a gastrojejunostomy. You take a bite on the stomach about 2½ inches. First, we make an approximation and run the suture of silk around the intestine and the stomach and then we introduce the ligature, draw it through the stomach and come back again on the intestine. After you have got your ligature in position and drawn it up, be sure you have it well on the stretch before you begin to tie.

DR. J. B. MURPHY, Chicago—The technic of surgical approximation is, I think, of lesser significance than the recognition of the pathologic condition of the intestines in, about and below the line of approximation. I believe that by any of the ordinary methods we will get a good and sufficient approximation if we will recognize the pathologic conditions of the intestines, whatever the position of the approximations, and the failures in intestinal approximation rest principally, I believe, in not recognizing that the intestinal wall is infiltrated, and that its action is impaired for a considerable distance above the position of the resection. My attention was called to this in some of the early operations with the button, where I found gangrene following the insertion of the button. No other legitimate outcome could have been expected; no other result could have been secured by any other method. So soon as we learn to remove a sufficient amount of the bowel at the

proximal end to leave completely healthy, uninfiltrated intestinal wall, we will have less failures. That accounts, in my opinion, for the failures in many instances.

DR. ALEX. HUGH FERGUSON, Chicago—I would like to raise my voice in favor of the promotion of every man who is going to do intestinal surgery. We can get no good by looking on and seeing others do these operations. We have to do it ourselves, and the paper read by Dr. Campbell is, in my opinion, a very excellent one. I have seen him perform the operation. I have looked over the notes very carefully, and I can see the beauties of that operation. In the first place, you have fewer sutures than by any other method. That flap can be rolled back very quickly, and the other sutures on the outside are few and are only the so-called "tack sutures," because they do not go through into the mucous membrane; so that, although they are on the outside of the bowel, they can not do any harm.

The suture which has seemed to me to be the best and that which I have used the most is the one introduced by Dr. Connell. I have used it a large number of times. The last few years I have been using it almost exclusively when I could, but occasionally I would get a little stuck and could not very well use it, and I would fall back on my old friend, the Murphy button. I have used the Murphy button a large number of times, and it has stood me well in some places where a suture could not be applied, for instance, in removing a section from the lower portion of the cecum or the lower portion of the rectum, where you can not very well employ the suture, but you can put in the large size of the Murphy button. In doing the Bacon operation for stricture you can use the suture and the patient does perfectly well. It comes in very well in gastroenterostomy, and, in fact, there are so many applications for it that I would not pretend to mention them now. The McGraw elastic ligature I used in one case where I had done a gastroenterostomy. I had become a little conceited and thought that I would not get a vicious circle. I made the approximation a little high up, so that the gastric current could not help go down. In this case I was mistaken; it would not do that, and consequently I had to open the abdomen again and make an anastomosis between the two arms of the anastomosis. I did that with the McGraw elastic ligature very quickly and it served my purpose. For some little time afterward he had slight trouble with the circle of Willis until the anastomosis was complete.

I would also like to emphasize what has been said by Dr. Murphy, that failures take place more frequently owing to error on the part of the surgeon in selecting the part where the bowel should be removed than from any defect in the technic.

DR. O. BEVERLY CAMPBELL, St. Joseph Mo.—It seems to me that the most of the discussion has been on the McGraw elastic ligature and the older methods. In regard to the knots outside the lumen of the bowel, which question was raised by two gentlemen, it was well answered by Dr. Ferguson, and certainly the knot can do but little harm, and it would certainly be far-fetched criticism that would criticise a knot of that character outside the lumen of the bowel. Of course, some surgeons are getting so very technical that it is a question where they will stop. Now we would not have expected this method to have received more than a discussion, but it does seem to me that we should have discussed this method rather than the older methods, as we are looking for better things, and not for the older methods that we have tested and which we know are good. We want something a little bit better.

Fate of Typhoid Bacilli in Beer.—Professor Surmont of Lille, France, has been testing the beer made there in respect to its effect on typhoid germs. He found that the cultures of typhoid bacilli added to the beer were all killed in one-half to sixty-seven hours, the bactericidal effect being most pronounced in proportion to the amount of lactic acid in the beer; the acetic acid had also a lesser influence of the same kind. The beer, as it is manufactured, is evidently a hygienic drink, but when water is mixed with it, as frequently occurs, the germs in the water may prove a source of infection. Beer weak enough to allow survival of bacteria becomes more bactericidal as it ripens, as the bacilli in it generate more lactic acid, which in turn has a destructive action on them.

REPORT OF A CASE OF PEMPHIGUS CHRONICUS.*

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The word pemphigus is derived from a Greek word, which means a blister. Hence the earlier writers used the term, with some qualifying adjective, for all bullous eruptions. This gave a large number of varieties. More recently the term is more restricted in its use, and instead of some of these varieties we hear of the bullous eruptions of syphilis, impetigo bullosa, epidermolysis bullosa, etc.

This seems to indicate that the work of elimination is going on and the term will in the near future be restricted in its use to some definitely described disease or perhaps several varieties of the same disease. The disease known as pemphigus vulgaris by Hebra, Kaposi and others, or as pemphigus chronicus by Unna, Crocker and others, is the one to which no other name is given,

Fig. 1.—The eruption on the leg.

and seems entitled to be distinctly known as pemphigus. It would seem that pemphigus foliaceous is but an advanced or malignant variety of the other. In this paper I will not attempt to consider anything but pemphigus chronicus, as that was the affection afflicting the patient whose clinical history I will try to relate. While this is a rare disease, especially in America, it still occurs with sufficient frequency to make it of great interest to those giving a good deal of attention to skin diseases. This interest is increased by its obscure etiology and by the gravity of the disease. While a large percentage of these cases recover temporarily, we would like to quote Kaposi, who has had a large experience and seems to have studied his cases carefully and observed them for a period of years in order to see the final results He says:

In 21 years (1866 to 1887) I saw at the hospital 210 cases, and altogether more than 300 cases. Among 182 cases which were carefully studied there were 35 deaths (with autopsy),

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Cutaneous Medicine and Surgery, and approved for publication by the Executive Committee: Drs. H. W. Stelwagon, W. L. Baum and J. A. Fordyce.

i. e., the mortality under our observation was 17 per cent. The remaining 83 per cent. can only be regarded as temporarily "improved" or "cured" and the majority of them terminated fatally. In my estimation, not 10 per cent. of the cases really recover permanently. (J. C. Johnson's translation of "Diseases of the Skin by Kaposi," p. 399.)

Those cases which lapse into pemphigus foliaceous are considered universally fatal. It occurs to me that until the etiology of a disease is well established, careful and accurate reports of the clinical history of the case may be of value; hence the attempt to report the following as accurately as possible. The case occurred in the practice of Dr. E. Carbaugh, by whom I was called in consultation and given the opportunity to observe and report the case.

FAMILY HISTORY.—Mrs. H. D. Father died at 76 of Bright's disease. Mother died at 59 with "some disease" of the liver causing dropsy. She had three brothers and three sisters. One brother had rheumatism and another varicose veins, but all three are living and reasonably healthy. Sisters are all dead. One died at the age of 39 years with gallstone, without operation; one at the age of 39 years with some throat trouble, probably cancer, and the third died at the age of 35 years with consumption. The sister who died with the throat trouble had at one time, several years previous to her death, an eruption of blebs on her face soon after being vaccinated, which was supposed to be a vaccinal eruption. Patient knows of no other skin disease in her family.

Fig. 2.—The eruption on breast and axilla.

PERSONAL HISTORY.—Patient is 53 years old and has been a widow for the last eight years. She is 5 feet 3 inches high, and previous to the menopause weighed 125 lbs. Since the change, which occurred seven years ago, she has increased in weight to 150 lbs. She is of the blond type, with decidedly nervous temperament. Says she always considered herself an entirely healthy woman previous to her present disease. She was born in Cromer, England, and came to America eighteen years ago. She was married at 29 years of age and had two children, the youngest of whom is now 21 years of age. She had a severe nervous shock eight years ago on account of the sudden death of her husband, and has been more nervous since. Thinks she has had more worry in the past two years than ever before.

HISTORY OF THE DISEASE.—The disease began a little more than two years ago on the mucous surfaces of the labia majora. Bullæ developed, varying in size from a pea to a pigeon egg. These came in crops lasting two or three weeks, after which they entirely disappeared for the same length of time, and then a fresh outbreak took place.

This manner of attack continued until early in June, 1892, when the eruption appeared on other parts of the body in about the following order: Inside the thighs, on legs, arms, breasts, abdomen, neck, outside the thighs, back of hands, feet, face, scalp, mucous membrane of mouth, and soles of feet. All parts of the skin were affected except the palms of the hands. A part of the time when the eruption was very profuse erythematous patches were observed covering considerable surfaces, but these seemed to have no influence on the bullous eruption. Blebs sprung up by the hundreds; sometimes on the erythematous patches, but quite as likely on normal appearing skin. They varied in size from a large pinhead to a hen egg, were superficially situated, and showed the greatest irregularity in distribution and size. It was interesting to see how quickly

Fig. 3.—Distribution of the eruption.

the largest attained their full size. Beginning with the pinhead size, they became as large as a hen's egg in six or eight hours. The most common size of the fully developed bleb was about that of the ordinary filbert, or, possibly, a little smaller. Some never became as large as a pea. Some stood alone, while others were grouped, but with no regularity of grouping. Every day fresh bullæ appeared, but no one could guess where they would appear the next day. One day the principal group might appear on the outer thigh, the next on the abdomen and the next on the foot. The largest of the bullæ developed on the inner side of the thighs. The blebs all stood out semi-globular, tensely filled with a clear, yellowish or straw-colored fluid, which became opaque within twenty-four hours if not ruptured. At the same time all stages can be seen from the beginning of the bleb to the pigmented spot after desquamation. The patient's appetite remained fair, and she appeared fairly well nourished, but rather pale. She complained of being weak and sleeping poorly. Bowels were inclined to sluggishness. Rigors and heat flashes were frequent, and the temperature ranged from 100 to 101 2/5 for a period of over two months. I saw her first on July 17. A urinary examination made July 20 showed: Amount passed in twenty-four

hours, 24 ounces; specific gravity, 1024; reaction, acid; slight amount of albumin, but no sugar; a few coarse granular casts, numerous flat epithelial cells and a few pus cells. This specimen was not taken with a catheter, and we concluded the pus cells and most of the epithelial cells were from the labiæ. Six weeks later another examination of urine, removed by the catheter, showed a normal urine and it still remains normal. All of the finger nails and the great toe nails were exfoliated, beginning about the middle of August, and were replaced by brittle, poorly-developed nails, full of longitudinal ridges. They grow slowly and break off at the free border.

BACTERIOLOGY.—A bacteriologic examination was made of the fluid in the blebs. Fresh, tensely filled blebs were selected and, with a sterilized hypodermic syringe, the clear fluid was withdrawn and thrown immediately into culture tubes. Four tubes were used, with a different culture medium in each. These were given in charge of Dr. E. L. Stewart at the laboratory of the Kansas City Medical College, whose report we give:

"All the tubes showed a growth of bacteria. These were plated out and examined. The bacteria isolated in pure culture are of two types, one a micrococcus and the other a bacillus. The micrococcus answers every description of the *Staphylococcus pyogenes albus* and seemed to be quite small. The other type—a bacillus in morphology—resembled very much the typhoid bacillus as seen on agar-agar culture except that it was smaller both in length and thickness and was not so mobile as Eberth's bacillus. It grew readily on agar-agar, gelatin, potato and bouillon, and maintained its mobility and morphology on all four cultures. On agar-agar it first appeared as minute white specks, later becoming confluent and evenly disseminated except at the border, where there seemed to be a slight elevation. In gelatin a stab culture gave a crater form liquefaction which proceeded with moderate rapidity. On potato the growth was not as rapid as on other cultures, but in forty-eight hours showed a smooth, glistening culture. It seemed to stain with carbol fuchsin better than with methylene blue and was decolorized by Gram's method. No experimental inoculations were made."

BLOOD EXAMINATION.—We did not succeed in getting a proper examination of the blood at the time the eruption was profuse. Such an examination was made in February, about six months after that stage had passed, but while a few blebs were present on different parts of the body. This examination showed a normal blood in every way.

We were unable to secure material for a histologic examination.

The period of profuse eruption continued from early in June till late in August, nearly three months. The last week in August the number of bullæ diminished rapidly and seemed to cease about September 1. For about two months there were none to be seen on the body, but on the mucous surface of the labia, which had been better during the three months mentioned, the same condition reappeared as before. It still continues, fresh blebs continually appear and soon break, leaving raw surfaces. This location seems never to be entirely free; on other parts of the body a few poorly-formed, superficial bullæ form, soon rupture and disappear. The patient has gained in strength and appears in nearly normal health in every other way.

TREATMENT.—The treatment of the case consisted in the use of nutritious foods, perfect rest in bed, removal of all excitement and worry, and the administration of tonics, especially arsenic. Quinin, iron and strychnia were also freely given. The treatment which gave the most comfort and seemed to do the most good was the antiseptic bath. It seems all observers agree that this is a valuable aid in treatment. Hebra and Kaposi report severe cases cured by means of the continuous bath. We were unable to secure such a bath, but used a simple warm water bath and also medicated or antiseptic baths (bichlorid and boracic acid). The simple bath did not seem to accomplish as much as the medicated. The bichlorid bath seemed to do more for the patient than any other kind. This was given as strong as 1 in 5000, the patient remaining in it fifteen minutes. This strength was not used daily for fear of getting too much absorption of mercury, but a weaker solution, 1 in 20,000, was used more frequently than the other.

We are not trying to prove the cause of this disease in this paper, but simply reporting our observations. It seems quite reasonable to me to conclude that the point of departure from health is in the nervous system and through this the skin manifestations take place.

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THE TREATMENT OF EMPYEMA BY CONTINUOUS ASPIRATION.

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The disastrous results which sometimes follow simple open drainage of empyemas have induced a number of experimental and practical workers to undertake improved methods of treating such cases. These bad results consist in the failure of healing; in the formation of fistulas leading down to large cavities, often persisting for years after incision and drainage; osteomyelitis of ribs; retracting of connective tissue about the pleura, resulting in distortion of the thoracic viscera; infection with tubercle bacilli; secondary and remoter conditions such as amyloid degeneration and intercurrent diseases; and especially the distortions of the skeleton and the distant musculature due to the contraction and collapse of the chest walls. Most of these consequences are due to the mechanical conditions under which healing has to take place.

When the pleural cavity is widely opened the lung, on account of its elastic tissue, retracts immediately toward its root. During expiration there is a slight tendency on the part of the collapsed lung to expand, owing to the air from the injured lung being driven by expiratory pressure into the bronchus of the opposite side. During this temporary distension of the lung adhesion between parietal and visceral pleuræ can occur. The unfolding of the collapsed lung and the filling out of the pleural cavity take place partly by a progressive union between the parietal and visceral pleuræ due to the relief of tension at the point where granulations are most effective, during expiration (Roser).

Another cause of the closure of these cavities is to be found in the filling of the space by granulation tissue, while retraction of the new-formed scar tissue aids in drawing together the pleural surfaces, diminishing the size of the cavity. Relaxation of the diaphragm and the partial collapse of the chest wall, together with the adaptation brought about by the attendant scoliosis, give assistance in the process.

When cavities are very large interruption of any one of these processes may stop the progress of healing and the condition may persist for years.

Naturally the proper material to fill this space is the lung. To close the cavity by the alteration of the chest wall or by the pulling over of the mediastinal organs to meet the parietal pleura are makeshifts of but slight physiologic value. Obviously the correct procedure lies in the rapid closure of the cavity by inducing the lung at once to meet the parietal pleura, so that the pleural surfaces may quickly heal by granulation.

Several attempts have been made by different workers to overcome the pneumatic difficulties involved in these cases. Schede showed in 1890 that a common bandage could be made to act in a valvular way if it were made very large and put on very tight, and he has given us

certain special directions about the method of its application. The effect of such a dressing is to allow some air to escape into the dressing while but little air is allowed to enter. In this way the advance made by the expanding lung is to some extent maintained by permitting adhesion of pleural surfaces and removing tension from the pleural new connective tissue, which may proliferate and retract.

A mackintosh has been used for the purpose of aiding in this valve action of the dressing, and oiled silk and plates of glass have been applied with the same end. Thiersch was the first to suggest the thin rubber plate for this purpose. Buelau was the first to recommend continuous aspiration drainage. He used for this purpose the well-known siphon principle.

All of these methods, however, from a physical point of view, are defective, and in comparison with the recently proposed plan of Georg Perthes,[1] mere child's play, excepting under the simplest conditions.

Briefly stated, Perthes' method consists in making an adequate opening, if necessary with rib resection, and then continuously maintaining a pressure less than that of the atmosphere in the pleural cavity, so that the lung may be made to more rapidly approach the chest walls. The striking results obtained by this method, obviating the need of destructive operative procedures, induce the writer to make a report on the management of two cases of empyema treated by him in this way, especially as he is able to give minute directions for the application of the principle in private houses.

The method calls for some special apparatus which is not expensive, but requires some mechanical ingenuity and attention for its construction and care. In the first place, there must be a properly constructed cover for the wound. Next there must be a continuously acting air pump to remove the air from the pleural cavity. In the third place, a collecting vessel is required for the pus, and this must be provided with a manometer.

The pump best adapted to the needs of the method is Bunsen's, which, it will be remembered, is actuated by the running water of the hydrant. This pump is a little brass instrument about seven inches long, which screws on to an ordinary hydrant. The waste water discharges into a sink, and a rubber tube connects the exhaust of the pump with the collecting vessel.

In the management of my first case the apparatus required had to be entirely extemporized. The first difficulty encountered was that the water service pipes of the house did not enter the room in which the patient lay, and beside, there was no drain through which waste water could be allowed to escape. The first difficulty was overcome by bringing water by means of a garden hose from the story above, where a large tank was located. The second difficulty was overcome by raising a window a trifle and passing a tube out to discharge the water on the ground. A Bunsen pump of metal was obtained at a supply house for chemical apparatus. The current of water was made to pass through this pump in a fair stream. The exhaust of the Bunsen pump was connected by means of a rubber tube with a glass tube passing through a rubber stopper in one neck of a three-necked Wolff bottle. The pump, therefore, diminished air pressure in this Wolff bottle. Through the second rubber stopper a tube was made to pass to the apparatus connected with the chest cavity of the patient. A manometer was connected with the third opening in the bottle. The purpose of this manometer was to regulate the air pressure in the empyema cavity. Inasmuch as there was leakage about the chest walls, air being admitted into the apparatus constantly on account of mechanical imperfections, it was necessary to provide for an excess of aspiratory action. This was admirably done by the Bunsen pump. Once set in action the pump required but little attention from the attendant. Night and day its action was continuous, and, in the main, entirely satisfactory. Variations in the water pressure, however, resulted in irregularities in the vacuum, unless this result was prevented by the use of a manometer. This simple apparatus is best understood by reference to the photograph and a reproduction of Perthes' cut. I obtained from the supply house a Y-shaped tube, such as is used in the laboratory for dividing the gas supply of an ordinary gas pipe. The lower end of the single branch of the tube was provided with a rubber tube slipped over the open end, the lower end being filled with mercury, retained by means of a pinch cock. The raising or lowering of the pinch cock raised or lowered the mercury in the arms of the Y. Connection by means of tubes was made between one of the arms of the Y and one of the necks of the Wolff bottle.

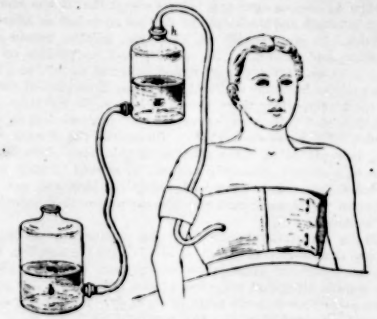

Fig. 1.—Application of dressing to side of patient. (Perthes.)

Thus, when the air was exhausted from the Wolff bottle the pressure on the mercury in the arms of the Y was altered, the mercury traveling upward in the arm nearest the Wolff bottle and sinking on the other side. If the exhaustion proceeded to a certain extent, the mercury was drawn down beyond the point of junction of the Y arms and the air passed over into the Wolff bottle. The mercury then flowed back into the Y, and the equilibrium was re-established. In order to prevent the mercury from being drawn over by the rush of air into the Wolff bottle, it was necessary to introduce into the manometer tube a glass tube provided with a bulb, so that the mercury might, when drawn up, spread out into a lake, and allow the air to pass through it. We used for this purpose an ordinary pipette. The nurse can regulate this part of the apparatus from time to time with ease.

The dressing applied on the chest wall was different from that originally described by Perthes. I prepared the apparatus used by taking dentists' heavy rubber dam material, making a small opening in the center of a piece about ten inches square, pushing the rubber drainage tube through this opening and sealing the junction between the tube and rubber plate with ordinary bicycle cement. The best tube to use for this purpose is that suggested by Perthes, a soft stomach tube. The rubber

1. Beiträge z. kl. Chir., Bd. xx, H. 1, 1895.

plate was laid on the chest wall of the patient in such a way that the tube readily entered the opening in the patient's pleural cavity. Needless to say, the apparatus had been disinfected by washing and soaking in chemical disinfectants. It was found that zinc oxid ointment spread thickly on the rubber dam tissue protected the skin, and at the same time prevented the ingress of air. The wrinkling of the rubber dam tissue may be prevented or diminished by using very heavy tissue, or by cementing the rubber dam tissue to the chest wall. The apparatus having been applied the impervious tissue may be fastened down by means of rubber adhesive plasters about the edges, and a large dressing with a hole in the middle may be fastened around the chest of the patient.

These preparations having been made, the pressure may be applied by turning on the water. At first the pressure should be low, not more than twenty-five or thirty millimeters of mercury, as measured in the Y

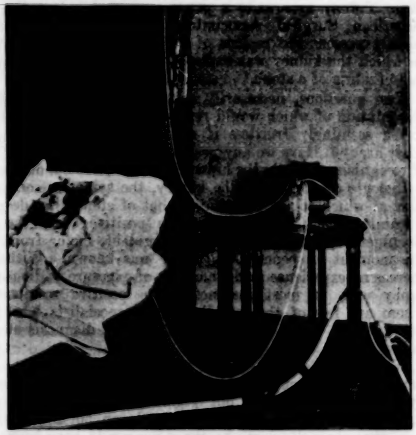

Fig. 2.—The author's apparatus.

arm of the manometer nearest the Wolff bottle. This can be accurately provided for before starting the apparatus in action by filling the two arms of the manometer to an equal height, this height being equal to one-half the desired pressure. At first the patient rather dislikes the pressure. Later he does not object to it. Our first patient bore thirty millimeters' pressure without complaint. He slept well while the pressure was maintained.

This entire apparatus can be provided at an expense of only a few dollars. No special apparatus is necessary, although Perthes has had such apparatus manufactured. The cost of Perthes' apparatus in Germany[2] is set at about sixty marks, equal to about fifteen dollars. The improvised apparatus, exclusive of the garden hose, was provided for less than five dollars.

Any physician of a mechanical turn of mind who has a good nurse to assist him can make use of this modification of Perthes' apparatus in any private home. The consumption of time and effort by the physician will be considerable. The patience of the nurse will often be tried, but the remarkable results obtained certainly justify all efforts and any degree of patience. The writer feels confident that the enormous empyema cavity with which he had to deal in this case would not have healed spontaneously by the usual treatment in a much longer time.

CASE 1.—The patient was Dr. N. of Sycamore, Ill., aged 32. A severe left-sided pneumonia preceded the empyema. Typical rusty sputum had been observed, in addition to the ordinary symptoms of that disease. The patient had been sick about three weeks.

His appearance when seen by the writer indicated extreme fatigue and exhaustion, but the expression was intelligent, although at times some mental aberration was noted. The patient had lost much weight, and the features were pale and drawn. Respiration was rapid and shallow and the pulse rate was high. On inspection of the chest the right side was seen to actively expand and contract with respiration, the excursion of the chest wall being greater than normal. The left side was bulging and comparatively inactive during respiration. The intercostal spaces projected to a marked degree. The cardiac pulsations were observed at the right of the sternum. Dulness was absolute over the entire left side from the region of the diaphragm to apex of the lung, both in front and over the back.

On account of the great pressure within the thoracic cavity, the displacement of the heart and other mediastinal organs and the embarrassment to both respiration and circulation, drainage of the pleural cavity was effected under local anesthesia (Schleich.)

The writer is strongly opposed to general anesthesia in operating on extensive pleural accumulations. Local anesthesia suffices for an incision, which is all that should be undertaken in a primary operation.

The patient bore the discomfort of the operation heroically. At least a gallon of pus was immediately discharged from the pleural cavity. A rib was not resected. It is not necessary to resect ribs, excepting where prolonged drainage is required, the intercostal spaces being amply large for all ordinary purposes, even in children. The respiration of the patient was temporarily very much embarrassed, and the pulse, for a time, was much accelerated. In a few hours, however, the patient experienced great relief. Twenty-four or forty-eight hours after the operation the condition of the patient was for a time alarming, but under appropriate stimulation the critical period was passed. For a variety of reasons not connected with the operation or the condition of the patient the aspiratory apparatus was not applied until the eighth day, although it would have been feasible and much more advantageous to apply the apparatus soon after draining the chest cavity.

At first the amount of the discharge was great, a pint being discharged in twenty-four hours. The quantity rapidly diminished until only a few ounces were found obtained in the bottle.

It was but a few days until the patient was able to sit up in bed, and in the course of four weeks the wound was entirely healed, the drainage tube having been gradually shortened.

Only a few hours after the application of the apparatus air could be heard entering the left lung and the tympanitic note of pneumothorax had disappeared. A pressure of thirty millimeters of mercury was contentedly borne, the patient sleeping in perfect comfort throughout.

Drs. George Nesbitt and J. S. Brown gave the most hearty and sympathetic co-operation in carrying out the plan. About six weeks after the operation the patient went to North Carolina to recuperate. His health is now all that could be desired and there is practically no chest deformity.

The value of Perthes' method and the indications for its application are yet to be determined by the larger experience of the profession. Perthes himself reports,[3] however, a number of cases, both of acute and chronic empyema, which he has treated by his method. His conclusions and comments are of interest and value.

2. C. G. Heinemann, Leipsic.

3. Mit. a. d. Grenz. Geb., Bd. vii, H. 4 u. 5.

He notes that in all recent cases the lung was distended (*entfaltet*) in a few days, "and yet the secretion diminished only gradually and the healing of the space (*spalte*) remaining after removal of the drain required a considerable time. This is only to be explained by assuming that a certain time was required until the pneumococci or streptococci imbedded in the superficial layers of the pleura died."

Perthes considers that his apparatus should be used when, four days having elapsed after incision, it is found that the lung has not resumed its contact with the parietal pleura. Of course, in many instances the tight dressing of Schede suffices.

In chronic empyema the necessity for the employment of this method of treatment is even greater than in acute cases. The second case observed by the writer convinced him of the value of the method under such circumstances.

CASE 2.—George W., aged 6, entered Wesley Hospital Dec. 1, 1901. His previous health had been excellent. Seven weeks before, the parents stated, the child became ill rather suddenly and the family physician diagnosticated a pneumonia on the left side. Although the cough diminished, the patient did not improve much, and gradually the left side became more and more swollen.

On admission the patient was found to be a fairly well-developed child, but very much emaciated. He lay by preference on the right side and coughed a great deal.

Dulness on the left side extended from almost the level of the clavicle to the diaphragm, and from the spine to a point beyond the anterior median line. The heart was pushed well over to the right. The pulse ranged from 116 to 144; the respirations from 48 to 54. Marked bulging on the left side.

On account of the great embarrassment of the respiration and circulation the writer's usual practice of operating under local anesthesia was followed. At clinic an incision about one inch long was made in the anterior axillary line at the sixth interspace and an enormous quantity of pus escaped. Respiration became stormy and labored, until a large dressing was quickly applied. For several days the patient remained extremely weak, but, the temperature becoming nearly normal, improvement at last began and the cavity rapidly diminished in size. But when thirty days had passed and the cavity had for a week held two ounces of fluid, it was decided to apply Perthes' apparatus to hasten the healing process. In five days the capacity of the cavity was diminished by half. The manometric pressure was raised from thirteen to twenty-five millimeters. Two days later, January 9, it was again increased to forty-seven millimeters; January 11, to fifty-three millimeters, and January 17 to seventy millimeters. After forty-eight hours the apparatus was removed and dry dressings applied. The sinus was a little slow to heal, but on January 26 was finally cicatrized.

The deformity was very slight and will, I think, eventually almost entirely disappear.

These cases are presented because the writer considers them suggestive rather than demonstrative, and because the original apparatus of Perthes' can be extemporized in the manner indicated.

The writer believes that a very important field of usefulness exists for continuous aspiration of the pleural cavity both in acute and chronic empyema.

103 State Street.

The Campaign Against Quackery.—To discourage poor persons who suffer from pulmonary affections from patronizing concerns which profess to have a cure for consumption, the tuberculosis committee of the New York Charity Organization Society has issued thousands of circulars to the poor. This was because a concern had attempted to link the name of the society with one of its advertisements in such a way as to cause the impression that the society indorsed the "cure."—*Pharmaceutical Era.*

UNILATERAL DISEASE OF THE KIDNEY SIMULATING STONE.*

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CINCINNATI.

When one considers the achievements in any field of surgery there is always one spot brighter than the rest by reason of especially good results; results obtained through faultless interpretation of symptoms and clinched by brilliant operation. In the field of renal surgery this applies to the operation for stone in the kidney, that is, when a stone is found. Unfortunately the elating thrill the surgeon expects to experience when the finger touches the stone in the opened kidney is not always felt; in its place is chagrin, if not discomfiture, when the fullest search fails to reveal the object sought for. To whom has it not occurred? A year ago the writer saw one of the foremost specialists in kidney surgery fail to find a stone in two cases within ten days. Were Tiffany to rewrite a paper presented before the American Surgical Association in 1889, he might readily present the reports of 200 cases instead of 21 in which the kidney was explored with results negative as to finding of a stone.

Two questions, necessarily correlated, at once arise, the solution of which would remove the obloquy attending a seemingly fruitless if not hazardous operation. They are: 1. Have we any positive and absolute method of recognizing stone in the kidney? 2. Are there not other pathologic conditions in the kidney, the symptom-complex of which covers to a nicety that of stone? In determining the first question in a positive sense the Roentgen ray was of necessity a formidable factor from the moment its penetrating power was known. With increasing experience in the methods of exposure, radiography will, in most instances, give positive results. There are few of the world's famous specialists who, like Leonard, are ready to make a negative diagnosis of kidney stone.

When I contemplate a few of the stones I have removed by operation, weighing 11, 15 and 20 grains respectively, some of them not larger than a pea, and removed from very fleshy individuals, I can not but believe that their discovery by the *x*-ray would have been largely a matter of chance. It goes almost without saying that an effort should be made to locate a stone by radiography in every suspicious case before operation. The sounding for kidney stone with a wax-covered ureteral bougie, as suggested by Kelly, seems to me chimerical in the extreme. To one conversant with the variations in position of a kidney stone it must be evident that its detection by sounding must be altogether fortuitous. Aside, then, from the positive presentment of a calculus by radiography the signs most relied on are pain, paroxysmal or continuous, and certain changes in the urine.

To consider the former at length is beyond the scope of this paper. Suffice it to say that the pain of stone may be simulated by any gross pathologic conditions of the kidney or ureter, such as tuberculosis, tumor, hydronephrosis, etc., and what is most relevant to the question propounded, by microscopic changes in the kidney, changes affecting either the secreting, the circulatory or supporting frame work and capsule of the gland. While ordinarily renal colic is associated with intrarenal retention from obstructed outflow, in certain chronic af-

* Read before the Southern Surgical and Gynecological Association.

fections of the kidney with acute exacerbations the distension of a resisting capsule from within may be, and often does, give rise to a typical renal colic.

The most important factors making for a diagnosis of stone are obtained from an examination of the urine. Everyone associates hematuria with stone in the kidney. While this may be as profuse as in malignant tumors, it has, in my experience of nearly 20 cases, been marked rather by sparseness. In a paper[1] read before the American Medical Association in 1895, I insisted on the microscopic character and constancy of the hematuria as almost characteristic of stone in the kidney. The centrifuge alone will help us to distinguish a few, probably faded discs in nearly every sample of urine voided, and as long as pyelitis is absent a number of leucocytes proportioned to the discs as in normal blood. Albumin, except in traces, and casts, epithelial or blood, are not found ordinarily in the urine from a stone kidney, unless secondary nephritis has developed. The bleeding comes from the pelvis or its larger tributaries. During or after a renal colic the hematuria may be profuse. Its source is then not the pelvis alone, but the congested renal parenchyma, as it is in the hematuria from hydronephrotic kidneys.

In the urine of 1,997 persons examined by Musser blood was found by microscope in 364. All the cases of kidney stone had hematuria. "It is not an intermittent phenomenon, but one that is constantly persistent."

When we next consider that in certain but few cases of undoubted chronic nephritis albumin and casts are absent, often for months at a time and sometimes altogether, and that both pain and hematuria either microscopic or profuse may be present, it seems evident that the difficulties of differential diagnosis at times are insurmountable. True, in most cases of Bright's disease, hematuria is always microscopic; indeed, profuse hematuria has, until very recently, not been associated with this condition by clinicians. Naunyn's recent report of three cases has directed attention to the possibility of profuse hematuria accompanying Bright's disease.

With these difficulties of diagnosis before us it necessarily follows that cases must multiply in which a supposed stone is not found by operation or autopsy, and that many kidneys explored superficially by such inspection, as an operation permits, would be found seemingly normal. It also follows that explanations of the symptom-complex on some basis other than anatomic would be forthcoming. Because of the absence of such a basis it was natural that the pains should be designated neuralgic; surely an explanation that fails save in the rare cases of renal crises of locomotor ataxia, described as long ago as 1876 by Raynaud and Leboullet, and distinctly allied to the gastric crises of Charcot. It remained for Sabatier, in 1889, to originate the euphonious term hematuric nephralgia to designate this group of symptoms; a term which defines concisely, but fails to explain. It is curious that in the Sabatier case he found a slight inflammation of the kidney, the importance of which in the production of symptoms he failed to recognize.

The same criticism of defining without explaining applies to the more recent terms of essential hematuria, angio-neurotic hematuria and renal hemophilia. But these terms are justifiably used when the non-existence of inflammatory or other changes in the kidney has been demonstrated by minute examination of post-operative specimens or by postmortems. How difficult this may be and how slight the changes, is illustrated by a kidney removed for essential hematuria and presented by Nickolish to the Paris Academy a year ago. In Vienna the kidney was pronounced normal. In Paris Albarran and Motz found marked evidences of glomerulonephritis. That profuse bleeding from the kidney can be a symptom of hemophilia, various forms of toxemia or arteriosclerosis without local changes in the kidney, is not to be questioned. It has also been noticed from normal kidneys after very prolonged exercises, notably horseback rides of many hours' duration. Barring these conditions, does it occur from normal kidneys? According to Schede, this only occurred in six cases, and Israel only concedes two, those of Schede and Klemperer, in evidence of its possibility.

A critical analysis of the conditions found when kidney stone or tuberculosis was fruitlessly sought, answers in the affirmative the second question propounded in the beginning of this paper, namely: Are there not other pathologic conditions of the kidney, the symptom-complex of which cover to a nicety that of stone? Such analysis, furthermore, enriches our knowledge of renal pathology by two important data. They are: First, that bilateral, chronic nephritis often manifests itself as an unilateral disease; and, second, that just as tuberculosis or infarct, though hemogenetic, may be unilateral, chronic interstitial, parenchymatous and capsular inflammation of the kidney may be limited to one side. Rayer already called attention to a case of this kind in his classical treatise on the kidney. Carefully studied cases of this nature are not numerous. This is my reason for presenting the following case:

HISTORY.—W. H. C.; aged 58; merchant. Family history negative in regard to patient's complaint. Father died at 56 of gangrene of the foot, mother died at 76 of pneumonia. One brother died at 60 of cancer of the stomach. Patient has always claimed to be of frail health. Had ordinary diseases of childhood. While in the voluntary navy had malaria. In 1884 had an attack of scarlet fever. After the attack of scarlet fever he became troubled with what was supposed to be cystitis, for which he was treated from time to time for ten years. In 1800 he had gonorrhea. About fourteen years ago he had his first attack of pain in the right loin and underneath the lower right ribs. This was associated with a sense of fulness and of soreness. He experienced at the time a sense of abdominal tension, which was relieved when vomiting set in. This was associated with an irresistible desire to urinate. Micturition was frequent and very painful. The attack lasted for several days, and was supposed to be appendicitis. The attacks first returned from time to time, and, to use the patient's language, then became more insistent and persistent. The patient has not been free from pain for a month at a time in the last ten years.

The case had been diagnosed at different times cystitis, appendicitis, pyelitis, stone in the kidney and floating kidney. When seen with Drs. Stewart and Forchheimer, the patient presented the following condition: Middle aged man of nervous temperament and ruddy complexion. Shows facial traces of severe suffering. He had been confined to his room for six weeks with pain in the right side of the loin reflected to the right groin. For the relief of this pain, the patient takes two to five grains of codein daily. During his confinement his temperature was always normal. When the attacks of pain are severest there is frequency of micturition. Micturition is painless. Never complains of pain in region of the left kidney.

PHYSICAL EXAMINATION.—This is negative except for some tenderness on deep pressure in the right costo-vertebral angle and over the right ureteral crossing over the pelvic brim. The kidney can not be palpated. Cystoscopic examination negative. Separation of the urines was not attempted.

URINALYSIS.—While the patient was under observation fully fifty samples of urine were examined. At times there

1. THE JOURNAL A. M. A., July 6, 1895, p. 1.

was a slight polyuria. The urine was always clear and limpid, free from albumin and casts. Every specimen examined when centrifuged, presented from five to ten red blood cells in the microscopic field. Often they were difficult to discern. Evidences of pyelitis were not found in the urine at any time. Hematuria was never manifest to the naked eye.

Feeling nearly certain that the kidney harbored a stone, an *x*-ray picture was taken. Although it clearly revealed the kidney shadow, it showed no stone. An exploration of the kidney was nevertheless determined on.

OPERATION.—At Jewish Hospital, April 21, 1902. Oblique, lumbo-abdominal incision. When the deeper layers of the perirenal fat were reached, they were found much firmer than normal, and in exposing the capsule of the kidney firm adhesions to this of the fat layer had often to be divided with knife or scissors. The freeing of the kidney preliminary to incising it was as difficult as I have seen it after long-standing pyorenal fistulæ. The kidney, of about normal size, was very grayish in color and much firmer to the touch than normal. A stone could not be felt. After placing an elastic ligature in the usual way about the pedicle, the kidney was freely incised in the line first described by Hyrtl, and the pelvis opened. Except for possibly a slight dilatation of the latter, nothing abnormal was found. To the naked eye the kidney section appeared normal, except for a grayish color which may have been due to the operative ischemia. A thin section was removed for microscopic study. The ureter was easily probed to the bladder and found normal. The operation was terminated as an aseptic nephrolithotomy. This was perhaps a technical error, for a slight infection occurred which delayed recovery. The suppuration was extrarenal. In the course of this, a thrombosis of the left femoral vein supervened. June 5 the patient was discharged from the hospital well, except for a slight swelling of the left foot, the last sequel of the femoral thrombosis. This also disappeared. Since his return from his vacation the patient has followed his affairs; has had no pain of any kind, and repeated examinations of the urine fail to show any trace of hematuria. November 1 the patient reports a gain in weight of twenty-four pounds since the operation.

PATHOLOGY.—The following is the report of Dr. Hiller on the findings: The examination of the thin slice of kidney substance removed *intra vitam* reveals changes in the parenchymatous elements. Although the glomeruli have generally retained their normal appearance, here and there in areas the normal tingibility is lost, and distinct atrophy with granular change has occurred. The cells lining the tubules show in these areas a granular change with desquamation, the lumen of the tubule being often occupied by a granular debris in which nuclei are absent. On looking at the apparently normal kidney structure in the slide, the quantity of red blood cells both in and outside of the blood vessels stand out in bold relief. There is not present any distinct overgrowth of connective tissue nor are there any bands passing from the capsula propria of the kidney. This structure, although it does not appear thickened, seems unusually dense toward the outside.

In April, 1903, the patient reported from the Nile that he was in perfect health.

REMARKS.

The case presented is evidently one of atypical chronic inflammation of the kidney. In patches there was a distinct glomerulonephritis. From the adherence of the capsule proper to the fat capsule one might believe that a stone had existed at one time and was passed. The disappearance of the microscopic hematuria after the operation and the disappearance of all symptoms, and the fact that the patient never suffered from pain in the left kidney, make it reasonably certain that the disease in this case was unilateral.

Of considerable importance is the fact that a surgeon should not consider an operation on the kidney, in which he expects to find a stone negative in its results, when other changes in the kidney, as in the case reported, cover to a nicety the symptoms of stone. The capsule splitting and the section of the kidney will doubtless relieve many cases which simulate stone, and in which, because of the impossibility to make a positive diagnosis, are not now subjected to an exploratory operation.

In conclusion, the author would advise that in every case a small section of the kidney be removed for the purpose of microscopic examination. It is only in such a way that minute changes of the kidney can be discerned, changes which, although seemingly slight, are often capable of producing, as in the case reported, the severest symptoms.

ACUTE SUPPURATIVE CERVICAL ADENITIS OF INFANCY.*

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The condition to which I would direct your attention within the brief limits of this paper is by no means rare to those who have considerable clinical experience among children, and deserves to be qualified by the words "of infancy" inasmuch as the great majority of the cases occur in children under 2 years of age. At this period of life the lymphatic system is especially vulnerable and the lymph nodes in the cervical region particularly liable to infection and suppuration.

While in a few of the cases met, the infection of the gland has been preceded by and is traceable to some infected cutaneous lesion, in the vast majority of the most typical cases it seems evident that they are dependent on absorption from the nasopharyngeal space. The degree of inflammation in the nasopharynx seems to bear but little relation to the occurrence of the glandular swelling, many young children suffering from acute coryza or pharyngitis of considerable severity with slight or no enlargement of the cervical glands, while in others, presenting the type under consideration, it is rather the rule than otherwise that there is little or no nasal involvement at the time of the attack, although careful inquiry may elicit the history of an almost forgotten coryza a week or ten days previously. We are therefore led to infer that pathogenic germs have been carried to the glands and have there remained quiescent, or that areas persist in the nasopharynx from which by absorption a sudden glandular inflammation of considerable intensity may be lighted up.

It may be well for greater clearness to state that while those infectious diseases of childhood and the exanthemata which affect the mucosa of the nose and throat may often be accompanied by swellings of the cervical glands or even by suppuration, these are not at present under consideration, nor do they present the characteristic type and course of the acute cervical adenitis of infancy.

The usual history of the latter is that either with or without a known antecedent attack of influenza or coryza there is the sudden appearance of a marked swelling below the angle of the jaw, which, on examination, proves to be due to palpable enlargements of a lymph gland or glands lying somewhat deeply and obliquely from behind downwards and forwards just below the angle of the jaw and either chiefly anterior to or posterior to the sterno-cleido-mastoid muscle. The variation in the

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Diseases of Children, and approved for publication by the Executive Committee: Drs. H. M. McClanahan, A. C. Cotton and H. E. Tuley.

antero-posterior position of the mass appears to be due to the fact that there are two glands lying on about the same horizontal plane, one or both of which may be involved. The anterior one of these is easily palpated, the posterior one, which causes the swelling behind the sterno-cleido-mastoid, less easily, probably owing to its deeper position. Usually the chief incidence of the inflammation falls on but one of the glands, and the position of that one which is most enlarged determines the location of the mass. Holt in his text-book pictures the tumor as usually posterior. I have found it with about equal frequency anteriorly, and I present for your inspection two photographs of the same child in which evacuation and partial healing of the anterior gland was followed by typical involvement and suppuration posteriorly, which definitely confirmed my opinion that one or both of two glands might be involved.

Despite these variations, however, the general appearance and situation of the swelling is so characteristic that the diagnosis can usually be made by inspection. The child's head is thrown towards the opposite shoulder and the usual hollow beneath the angle of the jaw is replaced by a prominent mass, one and a half to two inches long by an inch or more in depth. Fever is usually present, 101 to 103 degrees, with malaise and irritability, and the mass is more or less tender to the touch. Where resolution takes place the gland remains about the same size for some days, firm and easily movable, and then decreases in size more or less rapidly. If suppuration is to occur the definite outline of the gland is lost after some days in a brawny infiltration of the surrounding tissues and with considerable uniformity fluctuation is followed by pointing at about the end of the second week.

The careful clinical observer will not confuse this condition with the less definite external swelling caused by the dissection outwards of a post-pharyngeal abscess, which, if it have reached that degree, already gives its own characteristic clinical symptoms; nor with mumps, the swelling due to which surrounds the lobe of the ear and in young children extends but a short distance below the lobe—in fact, terminates at about the point at which the mass of an acute adenitis begins. The fact that tuberculous adenitis rarely occurs before the beginning of the fourth year, and that the progress of such glandular enlargement and suppuration is rather a matter of months than of days, should, but unfortunately does not always, prevent the mistaken diagnosis of that variety of infection.

To the parent any affection of the infant which calls for surgical interference with the knife is a source of anxiety and mental suffering, while cicatrices on visible portions of the body, such as the neck, are an especial source of regret. When suppuration has occurred with beginning fluctuation it is an important rule in the management of these cases to delay incision until the thoroughly softened mass points with redness, enabling us to choose for our incision a location where the skin only need be cut through to reach the purulent accumulation. This is occasionally considerably delayed, especially in deep-seated accumulations posterior to the sterno-cleido-mastoid muscle, but in the few cases where an earlier incision has been made without distinct pointing it has been evident that the glandular tissue had not fully broken down, and discharge from the abscess cavity was prolonged and healing was tediously protracted.

The general surgical rule to lay open freely any pus cavity for the purpose of securing adequate drainage has a notable exception in these cases of acute adenitis of infancy. Here the smallest incision which will allow of the evacuation of the pus and the introduction of the smallest obtainable drainage tubing is sufficient. If the mass is properly softened, as shown by pointing, the distended cavity contracts and granulation goes on with almost marvelous rapidity, granulations often pushing their way into the fenestræ of the tubing as early as the third day. Packing with gauze or the use of drainage wicks I have long since abandoned in favor of the tube, for the former is unnecessary, and both packing and wick become dry and adherent at the orifice, defeating our purpose by occlusion, favoring accumulation of pus and delaying restitution.

Since scars on the neck are to be regretted, especially in female infants, considerable attention has been given to securing the best cosmetic results by placing the smallest possible incision where it will be least noticeable. This is attained by placing the child in a bright light and seeking on or near the distended area of pointing for one of the delicate lines which mark what were the bottoms of the natural folds of the skin of the normal neck. On this line or, if it can not be traced over the mass, on a direct extension of this line, an incision is made without anesthesia but one-fourth of an inch in length. Evacuation of the pus is then favored by very gentle pressure and the occasional introduction of a grooved director or small dressing forceps until the cavity is entirely emptied After slight stretching of the orifice with the dressing forceps a fenestrated tube three-sixteenths of an inch in diameter and one and one-fourth to one and a half inches long is introduced on a probe or small director to prevent doubling so as to reach the deepest portion of the cavity. This is secured externally with an 00 safety-pin, beneath which a fold or two of the dry dressing is, of course, placed to prevent uncomfortable pressure. On the second day usually the length of the tube is reduced one-half. On the third or fourth day there is but little discharge on the dressing and the tube may be removed. Thereafter there is a little thin mucoid discharge for a few days, and at the end of about eight days the wound is healed, leaving a minute scar at the bottom of a natural fold.

Where, after the removal of the tube, there is considerable induration of the tissues, the application of a 10 per cent. ichthyol ointment favors absorption and is more comfortable for the child than the dry dressing which becomes rough and hard with the drying discharge. When two adjacent glands have been involved and but one suppurated, induration is slow in disappearing. Rarely, as in the case of which I have shown you photographs, the adjacent gland suppurates later. If softening occurs rapidly we may occasionally reach the new cavity through the unhealed incision, but this is not often feasible. I have seen one case where it opened spontaneously on the seventh day into the unclosed sinus. Bilateral adenitis is not uncommon, but if one side suppurates the other usually resolves. My records, however, show cases where the other side suppurated from twenty days to six months later. Suppurative otitis media on the same side is a common sequela.

While strongly urging delay in incising until the appearance of localized pointing, this delay should not be prolonged until the skin is badly undermined, for in such neglected cases brought late to the surgeon healing is slow and unsatisfactory. This recommendation also should in no wise be construed to apply to the deep brawny phlegmon of the neck occurring in the course of scarlet fever where early incision is urgently indicated to prevent destruction of tissue if not of life.

Not all cases, however, of acute adenitis of infancy go on to suppuration. Holt states that in his experience of 109 cases, of which 96 were cervical, 62 per cent. suppurated. In my earlier experience with these cases certainly the majority of the glands broke down, but since the employment of the early and energetic abortive treatment, to be detailed below, suppuration has been the exception. Some years ago attempts to discover a successful abortive treatment were begun. Ichthyol ointment in various strengths was usually unavailing. Painting with iodin gave no better results. The continuous use of the cervical ice bag was ineffective. The various proprietary preparations of glycerin, kaolin and antiseptics in a mass of putty-like consistency, were faithfully tried, and only served to hasten suppuration like a poultice, for which purpose I now occasionally use them when abortive measures are clearly useless in the later stages. Absorption through the skin was evidently not sufficient in this region to affect the deep-lying glands.

The connection between chronic or subacute enlargement of the lymph nodes at the angle of the jaw and catarrhal conditions in the nasopharynx dependent on the presence of adenoid masses was then brought to my notice by the writing of Dr. Joseph Huber. The nasopharynx, owing perhaps to its situation and construction, has been accorded rather more than the usual neglect shown cavities whose interiors do not lend themselves easily to direct inspection. It seems to be only of comparatively recent date, despite the intimate connection between the condition of the mucosa of the nasopharynx and the integrity of the eustachian tube and the middle ear, that treatment of inflammations of the respiratory tract has been directed with any degree of regularity to this most resistant seat of catarrhal trouble, which, especially if adenoid masses are present with their deep sulci, affords an ideal opportunity for the retention and absorption of septic material. It is to Jacobi and Caillé that we owe, in this country most especially, the earnest recommendation of the nasal and post-nasal toilet for children, but only in the infectious diseases has this teaching taken root in general practice.

The connection between inflammatory conditions of the nasopharyngeal space and acute infections of the glands at the angle of the jaw once in mind it seemed probable that if promptly after the lighting up of the primary inflammation of the gland as evidenced by its enlargement, further absorption of infectious matter from the nasopharynx could be prevented, the gland might be able to cope successfully with the initial invasion and resolution occur, but that if fresh invasions were allowed to take place resistance would be overcome and the gland would break down. Attention was therefore at once directed to the problem of limiting septic absorption from the nasopharynx by measures which would keep the mucous membrane clean and also restore it as soon as possible to a normal condition. The plan adopted was as follows: When fever was present tablets were given containing:

℞. Tinct. aconiti	
Tinct. belladon., āā.....m. 1/4	016
Camphor .....gr. 1/10	006

Sig.: One-half to one tablet, according to age, every two hours.

Chlorate of potash has an almost specific action in limiting the pharyngeal inflammations of childhood, therefore:

℞. Potassi chloratis.....gr. i to ii	06-.12

Sig.: Every 2 hours for 24 hours, then every 3 hours, and later every 4 hours.

To cleanse and soothe the naso-pharynx:

℞. Tablets alkaline antiseptic (Seiler).

Sig.: Dissolve one in half glass water and pour a little with a teaspoon into each nostril every 3 hours.

The results obtained from the institution of this line of treatment were immediately most gratifying and a period of over one year during which these abortive measures were successful in producing resolution in every case would have been made rather too favorable a report to be credited. I have therefore withheld it until the series has been broken by a few failures (four in number) which under careful observation have in themselves proved most instructive.

A comparison of the series of cases, both without and with abortive treatment, shows in the latter a very marked reduction in the frequency of suppuration. In children over one year of age among whom under old method pus formation occurred frequently, there have been no failures. In infants under 1 year there have been but four failures, at 4, 5, 7 and 10 months of age respectively, in each of these temperature persisted and reached an average of 101 to 102 degrees each day.

1. The conclusions to be drawn from my experience are that: The abortive treatment of acute cervical adentitis of infancy as outlined is most promising, especially in children over 1 year of age.

2. The younger the infant the greater is the liability to suppuration.

3. A continuation of temperature makes the occurrence of suppuration probable.

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DISCUSSION.

DR. A. C. COTTON, Chicago—I believe it is my duty to go on record as approving this paper in the main. There is nothing especially new in the idea of the nasopharyngeal treatment of such cases, yet it is a matter of common observation that it is very rarely carried out. I think most practitioners of to-day will approve of a careful, judicious antiseptic cleansing of the nasal and post-nasal cavities. To be sure, there have been some objections on account of the possibility of forcing fluid, or rather infection, into the eustachian tube. With perhaps this single objection, I presume no one would differ from the essayist in regard to the importance of this nasopharyngeal and oral toilet. The determination of how much we believe in a thing may be best arrived at by observing our actions in regard to it. The Wisest Teacher said: "By their fruits ye shall know them." I recall a friendly review of a little publication that I brought out a few years ago, in which the book was treated in a most flattering manner, but the review closed with this statement: "The author's west side babies must be more tractable than those of the north and south sides, if they will permit the use of the tooth brush and atomizer advocated in this treatise." It was my privilege a year later to show the reviewer some families in which the daily systematic use of the tooth-brush, atomizer or nebulizer was as much a part of the toilet as the daily bath. The difficulties which to some physicians seem to be obstacles to the daily cleansing of the nasopharyngeal area are really insignificant. One father exclaimed: "Would you have me hold the child morning and evening while the mother and aunt perpetrate this cruelty?" It is needless to say that it had been improperly done. A little reflection will tell you that it is a simple matter if you approach the child on his weak side, and tell him he may have an atomizer for himself, such as papa and mamma have, provided he is specially good. You may use albolene at first; then some favorite perfume or flavoring, and finally you can use some disinfectant agent. Let me say that in the families in which I have succeeded in installing this nasal toilet during the past five years there has not been one case of suppurative adenitis. I think that prophylaxis lies along this line.

DR. CHARLES GILMORE KERLEY, New York City—I agree with Dr. Southworth regarding most of the statements made.

It is only necessary to make use of a small opening. Unless somé means of drainage is employed, this small incision is very apt to close in twenty-four or forty-eight hours, and will then require reopening.

The point of differentiation between tubercular adenitis and simple acute adenitis might perhaps have been brought out more clearly. I understood the author to say that tubercular adenitis was not frequently found under the fourth year. I should modify this statement somewhat. I have seen quite a few cases of tubercular adenitis in children under four years of age; hence, this is not a sufficient ground for differentiation. I should lay stress on chronicity. In acute adenitis there is always more or less fever, and the swelling is more rapid, and one, two or perhaps three glands are involved; in other words, there is a distinct localization, whereas if the process is tubercular there is much more apt to be a distinct chain of affected glands extending sometimes down even to the clavicle.

The treatment of the nasopharynx is excellent. I am glad to hear chlorate of potash advocated, for I know of no better remedy for internal use. I have learned, in cases of acute tonsillar inflammation, to depend on chlorate of potash, and I believe that whatever good the old iron and chlorate of potash mixture did in diphtheria is to be attributed to the chlorate of potash it contained. The chance of infection of the eustachian tube in nasal cleansing I believe to be considerable, and I do not allow my students to make use of any force. The patient is placed on the back and the fluid is dropped in, or perhaps an atomizer is used. There can be no doubt that bacteria may be forced into the tube by the use of the syringe. Four or five years ago, in one of the hospitals for infectious diseases in New York City, nasal irrigation was used very extensively by means of the fountain syringe, and during this period the aurist was kept very busy treating disease of the ear. This only confirms my own experience. I prefer simple oil or albolene medicated as the case may require, and this should be sprayed or instilled and not injected into the nose. With regard to the abortive treatment, I have had good results from the application of a small ice bag kept constantly on the parts.

DR. R. B. GILBERT, Louisville, Ky.—It is probable that the majority of cases of cervical adenitis do not come from the nasopharynx; most of the cases I see are the result of injuries and abrasions about the scalp. This is especially true in connection with invasion of the superficial glands, as from eczema. We often meet with cervical adenitis arising from caries of the teeth. I agree with the essayist, however, regarding the value of stimulating and cleansing applications to the nasopharynx. This should certainly be the routine measure. I can not quite agree with all that has been said regarding local applications, for I believe that fewer local applications, with possibly the exception of the ice bag, the better. Warm applications and ointments I think should be excluded. Iodid of potassium used internally certainly favors absorption, and I believe when administered every three hours in the full doses for the age of the patient, will accomplish more than any of the local applications mentioned, even more than the stimulating applications referred to. This treatment should be begun and carried out as promptly as possible in order to preclude surgical operation and unsightly scars.

DR. EVERETT J. BROWN, Decatur, Ill.—The reintroduction of chlorate of potash to the therapeutics of disease is to me very instructive. When I studied medicine the teachers warned us against the use of this drug, claiming that it produced profound anemia. My father, being an old practitioner, used to employ the old iron and chlorate of potash mixture, but I avoided it for the reason just mentioned. The patients, however, began to ask me why I did not prescribe the old mixture. I then began using it without the iron and I found that it was very valuable. In recent years chlorate of potash has been used very freely again, and has been recommended in very large doses in habitual abortion. For this class of cases I am now using it in divided doses of two and a half drams per day.

DR. C. F. WAHRER, Fort Madison, Iowa—We have been told formerly by the best authorities that chlorate of potash caused a great deal of disturbance of the kidneys in young children. I believe we should not turn lightly from one position to the other in a Section like this, because its published opinions carry great weight. We can not afford to use forcible irrigations, and particularly with a substance like hydrogen dioxid. I have seen this substance employed in half strength in a child's nostril. The explosion of such a substance may do a great deal of harm by its action on the eustachian tube and middle ear, forcing infections beyond our control. The cleansing by such an agent should certainly be done only by instillation. The older practitioners looked on these cases of cervical adenitis as one of the evidences of scrofula, and while I am not quite sure what is meant by scrofula at the present time, I am of the opinion that it is generally tuberculous. However, we must be still careful about heroic medication with chlorate of potash and in the use of forcible irrigations in patients of tender age.

DR. WILLIAM CARVER WILLIAMS, Chicago—Has the author of the paper had any experience with mixed infection in these glandular cases? I recently had a case of typical adenitis, such as he described, which was treated by the small incision at the stage of pointing. It refused to heal and there was considerable discharge at first. In time the whole chain became indurated, and exhibited the evidence of tubercular inflammation, and these glands eventually required removal by operation.

DR. JAMES G. MASTIN, Chicago—I have been in the habit of using chlorate of potash internally in suppurative conditions and locally in sore throat. I believe this remedy will limit the formation of pus in a suppurative adenitis, and that if it is begun early enough we can almost wholly prevent the formation of abscesses. I think that chlorate of potash may be given without fear if the kidneys are in a healthy state. The use of irrigations by means of the fountain syringe, etc., and atomizers I look on as bad practice because it involves more or less force in the application of the remedy. For the past year I have been using Pattison's nasal irrigator, with which we can apply as much or as little force as we like. By applying the irrigator to one nostril a thin stream of water will flow out of the opposite nostril and by closing it with the fingers and holding the mouth open a thin stream of water will pass through the nasopharynx and out of the mouth, thus closing the nasal cavities and post-nasal space. I have not recently made use of albolene or other oily preparations, for, although they are good, I believe that normal salt solution is superior to them all.

DR. H. N. LEAVELL, Louisville, Ky.—With regard to tonsillar involvement: Very often, if we will pull back the anterior pillar of the fauces, we shall find a little crypt full of cheesy matter which has not been sufficient to cause an acute tonsillitis but has produced enough irritation to involve the lymph channels. This, it appears to me, is an etiologic factor of some importance. With regard to the abortive treatment of these cases of cervical adenitis, I may say that I employed such methods very faithfully some years ago in the hope of avoiding suppuration, but like Dr. Southworth, I failed, and I believe there is not much gained by local applications to these glands. He is certainly reaching the cause of the trouble with his cleansing applications to the nasopharynx, but we must not lose sight of the fact that the eustachian tube is present in this region and is much more pervious than in the adult, so that the infectious material is more likely to be transmitted to the internal ear. This emphasizes the need of great caution against the employment of force. I agree with the last speaker regarding the use of saline solution. I believe it is better for cleansing purposes than anything else, and that it hastens resolution of the inflammatory process in the nasopharynx. It might be advisable to follow it up with the use of albolene sprays.

DR. A. C. COTTON—I wish to explain what I have said. I did not refer to treatment but to the prophylaxis of cervical adenitis when speaking of the toilet of the nasopharynx. The albolene atomizer to which I had reference was the one which nebulizes the albolene, and it is deposited like a fog on the parts. Absolutely no force is used in the application, and the albolene goes wherever the air current goes. This oily ma-

terial protects against crusts and the concealment of colonies of bacteria.

DR. T. S. SOUTHWORTH—I spoke in my paper about the employment of the spoon because it can be used without any force. The nose and throat specialists say a great deal about the danger of applications which we make to children's noses and throats, and yet they are in many cases employing compressed air sprays. I am of the opinion that if fluids are simply allowed to percolate through the nose and cleanse the mucous membrane, unless the nose is forcibly blown at this time no harm will result. It is the extension of the inflammation along the tube which I believe causes most of the trouble.

With regard to differential diagnosis of tubercular and ordinary cervical adenitis I would say that tubercular adenitis rarely occurs before the fourth year. While this is not an absolute point of differentiation it is, I think, a useful one. I am glad to hear that there is such a general use of chlorate of potash for pharyngeal and nasopharyngeal affections. I have always felt some anxiety with regard to the use of this remedy, although I prize it very highly. I have used it always very cautiously, yet it was only last summer that I learned from a medical friend of a fatal acute nephritis with hematuria in a girl of 17 from the use of chlorate of potash. The girl had purchased the tablets for a cold, and had eaten them very freely, with the result stated. Such cases should at least make us very cautious. The cases in which iodid of potassium proves serviceable in my experience are chiefly those in which there is a persistent induration, or in cases having a specific taint. I have not found it of so much service in acute cases. I have not made use of the chlorate of potash locally. It is quite possible that some of the cases which are very persistent are those in which there is a specific element, or perhaps a mixed infection. Here also the use of chlorate of potash has seemed to be of advantage.

THE ESTIMATION OF UREA BY MERCURIC NITRATE.

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Since the original publications of Liebig on the use of a solution of mercuric nitrate in the urea estimation several attempts have been made to so modify the process as to render it more perfectly accurate for the purpose. Liebig himself recognized the variable character of the precipitate formed when a solution of mercuric nitrate is added to one of urea, even when the latter has a mean concentration of 2 gm. to 100 c.c. and the mercuric solution is dilute, with 1 c.c. about equivalent to 10 mg. of urea.

This irregularity depends in part on the liberation of free nitric acid in the operation, and Rautenberg and others[1] attempted to correct for this by the gradual addition of alkali in the form of calcium carbonate. In this paper the authors recommend to correct the direct result of the titration by subtracting 0.06 c.c. of mercury solution for each cubic centimeter below 30 employed in titration of 15 c.c. of the prepared urine (that is 10 c.c. of urine and 5 c.c. of the usual baryta mixture). For example, if, in a given titration, 22 c.c. were used the correction to be subtracted from 22 c.c. is $8 \times 0.06 = 0.48$, leaving practically 21.5 c.c. to be used in the calculation.

Pfeiffer[2] later confirmed the value of the Rautenberg method as against the criticisms of Pflüger and others. Pflüger[3] published an elaborate investigation of the whole question and proposed a more delicate correction as well as certain definite methods in performing the operations of the test. His work is the basis of the processes described in many of our text-books.

Gradually, however, it began to be recognized that the mercury solution combines with several substances besides urea, and that it measures really, in a certain sense, the total nitrogen of the urine. This fact, coupled with the somewhat complicated procedure and corrections of Pflüger, led finally to the practical abandonment of this simple method in favor of others which are apparently more accurate. The various hypobromite processes can not, of course, be included here; their use is limited to the roughest kind of clinical applications. But I refer to the methods described by Pflüger and his followers on the one hand, and by Mörner and Sjöqvist on the other, for the separation of the disturbing factors from the urea before the actual test is made. A study of the literature, however, reveals the fact that in all of these methods and their modifications corrections are still necessary, and that, in general, they are not suitable for use when a rapid and fairly accurate process is required in making routine tests in urine investigations where the other important constituents are measured at the same time.

It is unquestionably true that in the mercury titration process the chief source of error is found in the volumes of solution required by the chlorids, the ammonia and the creatinin. The correction for the first may be easily made after the chlorin titration, and in fresh urine an approximate correction may be introduced for the ammonia and the creatinin, if they are not accurately determined. In a former investigation[4] I have made a large number of ammonia, creatinin and uric acid determinations and have found the correction to be introduced in the urea estimation on account of the presence of these. The mean value of the corrections are seen from these figures:

6 mg. of ammonia in 20 c.c. require 1 c.c. of mercury sol.
7.5 mg. of uric acid in 20 c.c. require 0.15 c.c. of mercury sol.
14.0 mg. of creatinin in 20 c.c. require 0.85 c.c. of mercury sol.

The 20 c.c. in each case is supposed to be made up of 10 c.c. of urine and 10 c.c. of water or baryta solution. In employing the process at all, or in the determination of ammonia, it is necessary to keep in mind that only fresh urine can be used with accuracy, because of the fact that in decomposition urea yields ammonia.

The apparently complicated corrections in the process as recommended by Pflüger are an objection to its practical use. I have, therefore, sought to simplify the procedure and corrections as far as possible, which may be accomplished in this way: First, the mercury solution is made in the usual manner and so adjusted that 20 c.c. correspond exactly to 200 mg. of urea in 20 c.c. when the end reaction is found as follows: Spread a number of drops of normal sodium carbonate solution (53 gm. Na_2CO_3 to the liter) on a glass plate with dark background, and as the end of the titration is neared bring a drop of the mixture in the beaker alongside one of the carbonate drops and cause the two to mix on one edge. Part of the beaker drop is thus drawn over the carbonate, giving a precipitate; as soon as this appears distinctly yellow consider the process finished and dilute the mercury solution so that exactly 20 c.c. should be required to produce this reaction, it being assumed that the standard solution in the beaker contained exactly 200 mg. of urea in 20 c.c. If a paste of sodium bicarbonate and water is used for the end reaction, or if the colored precipitate is

1. Zeitschr. analyt. Chemie, 2, p. 90, 1863.
2. Ibid., 24, p. 475, 1885.
3. Ibid., 19, p. 375, 1880.
4. Jour. Am. Chem. Soc., 23, p. 632, 1901.

obtained on mixing the drops by stirring, a different result will be reached. But if the final reaction is always made as just explained it will be found most satisfactory and readily observed. The actual urine titration must, of course, be made in the same manner, starting with a volume of 20 c.c. of prepared filtrate. Care must be taken to use pure urea for the standardization. That sold by dealers as pure may not contain over 90 per cent. of urea.

ESTIMATION OF UREA.

Hg. Sol. Used, c.c.	Urea Corresponding, mg.	Hg. Sol. Used, c.c.	Urea Corresponding, mg.	Hg. Sol. Used, c.c.	Urea Corresponding, mg.	Hg. Sol. Used, c.c.	Urea Corresponding, mg.
10.0	95.41	17.6	174.70	25.2	254.88	32.8	336.02
10.1	96.44	17.7	175.76	25.3	255.94	32.9	337.10
10.2	97.47	17.8	176.82	25.4	257.00	33.0	338.17
10.3	98.49	17.9	177.88	25.5	258.06	33.1	339.24
10.4	99.52	18.0	178.94	25.6	259.13	33.2	340.31
10.5	100.55	18.1	180.00	25.7	260.20	33.3	341.39
10.6	101.58	18.2	181.05	25.8	261.26	33.4	342.46
10.7	102.61	18.3	182.10	25.9	262.33	33.5	343.54
10.8	103.64	18.4	183.15	26.0	263.39	33.6	344.62
10.9	104.66	18.5	184.20	26.1	264.45	33.7	345.70
11.0	105.69	18.6	185.25	26.2	265.52	33.8	346.77
11.1	106.72	18.7	186.30	26.3	266.59	33.9	347.84
11.2	107.75	18.8	187.35	26.4	267.66	34.0	348.92
11.3	108.78	18.9	188.40	26.5	268.73	34.1	350.00
11.4	109.81	19.0	189.45	26.6	269.80	34.2	351.08
11.5	110.84	19.1	190.50	26.7	270.86	34.3	352.16
11.6	111.86	19.2	191.55	26.8	271.92	34.4	353.25
11.7	112.89	19.3	192.60	26.9	272.98	34.5	354.34
11.8	113.92	19.4	193.65	27.0	274.04	34.6	355.43
11.9	114.95	19.5	194.70	27.1	275.10	34.7	356.52
12.0	115.98	19.6	195.76	27.2	276.16	34.8	357.61
12.1	117.01	19.7	196.82	27.3	277.22	34.9	358.70
12.2	118.04	19.8	197.88	27.4	278.28	35.0	359.79
12.3	119.07	19.9	198.94	27.5	279.34	35.1	360.88
12.4	120.10	20.0	200.00	27.6	280.41	35.2	361.97
12.5	121.13	20.1	201.05	27.7	281.47	35.3	363.08
12.6	122.16	20.2	202.10	27.8	282.54	35.4	364.17
12.7	123.19	20.3	203.15	27.9	283.61	35.5	365.25
12.8	124.22	20.4	204.20	28.0	284.67	35.6	366.33
12.9	125.25	20.5	205.25	28.1	285.73	35.7	367.42
13.0	126.29	20.6	206.30	28.2	286.80	35.8	368.50
13.1	127.32	20.7	207.35	28.3	287.87	35.9	369.59
13.2	128.35	20.8	208.40	28.4	288.93	36.0	370.68
13.3	129.38	20.9	209.45	28.5	290.00	36.1	371.77
13.4	130.42	21.0	210.50	28.6	291.06	36.2	372.85
13.5	131.47	21.1	211.55	28.7	292.12	36.3	373.93
13.6	132.52	21.2	212.61	28.8	293.19	36.4	375.01
13.7	133.58	21.3	213.67	28.9	294.26	36.5	376.09
13.8	134.63	21.4	214.73	29.0	295.32	36.6	377.17
13.9	135.69	21.5	215.79	29.1	296.38	36.7	378.25
14.0	136.74	21.6	216.85	29.2	297.45	36.8	379.33
14.1	137.79	21.7	217.90	29.3	298.52	36.9	380.42
14.2	138.85	21.8	218.95	29.4	299.59	37.0	381.51
14.3	139.90	21.9	220.00	29.5	300.66	37.1	382.60
14.4	140.95	22.0	221.05	29.6	301.73	37.2	383.69
14.5	142.00	22.1	222.10	29.7	302.80	37.3	384.78
14.6	143.05	22.2	223.15	29.8	303.87	37.4	385.87
14.7	144.10	22.3	224.20	29.9	304.94	37.5	386.96
14.8	145.15	22.4	225.25	30.0	306.01	37.6	388.04
14.9	146.20	22.5	226.30	30.1	307.08	37.7	389.12
15.0	147.25	22.6	227.35	30.2	308.14	37.8	390.21
15.1	148.29	22.7	228.40	30.3	309.20	37.9	391.28
15.2	149.34	22.8	229.45	30.4	310.26	38.0	392.37
15.3	150.39	22.9	230.50	30.5	311.33	38.1	393.46
15.4	151.46	23.0	231.55	30.6	312.40	38.2	394.55
15.5	152.53	23.1	232.60	30.7	313.47	38.3	395.64
15.6	153.60	23.2	233.65	30.8	314.54	38.4	396.73
15.7	154.66	23.3	234.71	30.9	315.61	38.5	397.82
15.8	155.73	23.4	235.77	31.0	316.68	38.6	398.91
15.9	156.80	23.5	236.83	31.1	317.75	38.7	400.00
16.0	157.86	23.6	237.89	31.2	318.83	38.8	401.09
16.1	158.93	23.7	238.95	31.3	319.90	38.9	402.18
16.2	160.00	23.8	240.01	31.4	320.97	39.0	403.27
16.3	161.05	23.9	241.07	31.5	322.04	39.1	404.36
16.4	162.10	24.0	242.13	31.6	323.11	39.2	405.45
16.5	163.15	24.1	243.19	31.7	324.19	39.3	406.54
16.6	164.20	24.2	244.25	31.8	325.27	39.4	407.63
16.7	165.25	24.3	245.31	31.9	326.35	39.5	408.72
16.8	166.30	24.4	246.36	32.0	327.43	39.6	409.81
16.9	167.35	24.5	247.43	32.1	328.51	39.7	410.90
17.0	168.40	24.6	248.50	32.2	329.59	39.8	411.99
17.1	169.45	24.7	249.57	32.3	330.66	39.9	413.08
17.2	170.50	24.8	250.63	32.4	331.74	40.0	414.17
17.3	171.55	24.9	251.70	32.5	332.81		
17.4	172.60	25.0	252.76	32.6	333.88		
17.5	173.65	25.1	253.82	32.7	334.95		

With a mercury solution so adjusted I have made the following determinations. In each case a solution of urea in 20 c.c. of water was used and the end reaction was found as described. No neutralization was made, as part of the object of the experiments was to determine how to avoid this:

Urea in 20 c.c.	Hg sol. required.	Urea cor. to 1 c.c. of Hg solution.
100 mg.	10.45 c.c.	9.57 mg.
200 mg.	20.00 c.c.	10.00 mg.
300 mg.	29.47 c.c.	10.18 mg.
400 mg.	38.72 c.c.	10.33 mg.

The numbers in the second column are the means of many closely agreeing experiments. Those in the third column show the increase in the precipitating value of the mercuric solution. The value, y, of 1 c.c. of this solution for urea solutions containing from 1 to 4 gm. in 100 c.c. is given by the following interpolation formula derived from the observations:

$$y = 8.66 + 1.217x - 0.345x^2 + 0.03665x^3$$

By the aid of this formula and a curve drawn from the observations I have calculated the table given, in which the amounts of urea corresponding to different volumes of the mercury solution used are stated. The application of this table presupposes the use of a standard mercury solution, adjusted as explained above, and, further, that the titration is always made as recommended. The volume of mercury solution to be employed in the calculation is that which remains after subtracting from the total volume used the amounts used by the chlorids, uric acid, ammonia and creatinin, as shown in a short table above. In my own laboratory the method has been followed with excellent results.

In preparing urine for the test, I use 25 c.c. and mix with an equal volume of the usual baryta solution, accurately measured. The mixture is poured through a dry filter, and of the filtrate 20 c.c. is taken for the titration. This must be neutralized exactly with nitric acid, of which a drop or two is enough. Throw a bit of litmus paper into the filtered liquid and add the dilute nitric acid by means of a glass rod until neutrality is reached. The liquid is then ready for the mercury titration as described.

Northwestern University Medical School.

Personalities vs. Organization.—Every physician either is or is not honest and honorable and ethical, so far as the practice of his profession is concerned. If he is honest and honorable in his professional work, he should be a member of his local and state society; if he is not, he should not be permitted to join such societies nor to retain his membership in them if he has already joined. But no question other than professional integrity should be allowed to enter into the matter of medical society membership. Personal differences of opinion, envy, hatred or malice, likes or dislikes, nor race, school nor religion should so much as be thought of when the one great question of professional organization and of membership in the local and state medical societies is considered. If there must be squabbles, let them be outside; let medical organization be on the broadest possible lines, for professional honor and advancement, and for the benefit and protection of all honest and honorable professional men, no matter what their personal differences may be. Let us have a state society so big that personalities will be lost in it.—*California State Journal of Medicine.*

A Just Protest.—The *Medical World* of recent date contains a lengthy editorial instructing physicians how to extract teeth, describing the outfit needed, and urging them to take up the work. The article does not contain a word about what teeth should or should not be sacrificed. What would a physician think of a dental journal which advised dentists to perform amputations of various parts of the body, simply as a means of increasing their income?—*Dental Digest.*

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THE CLINICAL SIGNIFICANCE OF ALBUMOSURIA.

Despite all modern methods of diagnosis the decision as to whether pus is or is not present, hidden in some unexplorable locality, continues to fret the diagnostician. The determination of the leucocyte count has not been as valuable as it promised to be, according to many, and at the best it is often inconclusive when a positive help is most needed. Any means that may assist in deciding this point is certain to attract attention, and we predict a general interest in the recent article of T. J. Yarrow, Jr.,[1] which considers the question of albumosuria as an aid in determining the presence or absence of suppuration, based as it is on extensive investigations by the author. Albumoses may get into the blood in a number of conditions, and even if only in small amounts they seem to enter the urine usually. The albumoses formed in normal digestion are ordinarily changed into something different while passing through the intestinal wall, but in case there is an area in which the intestinal epithelium is absent, as in ulcerative processes, they may pass into the blood unchanged and appear in the urine. The peptone that always accompanies the albumose in ordinary digestive processes seems to be more readily destroyed in the body than the albumose, for true peptone seems never to occur with the albumose in the urine. With the exception of this faulty intestinal absorption, albumoses are present in the urine only as a result of self-digestion of tissues in the body; conversely it may be said that whenever any considerable amount of dead tissue is undergoing softening at a fairly rapid rate, albumosuria may occur. Softening of dead tissues does not differ greatly from their digestion in the alimentary tract, for in each case similar proteolytic enzymes are producing similar splitting products, among which is the albumose. Although all tissues contain more or less active proteolytic substances, when softening is at all rapid it will be found that the leucocytes are taking a prominent part, not so much through phagocytosis and intracellular digestion, as we once thought, but more by extracellular digestion by enzymes that they liberate. Hence the rapidity of softening, and therewith the probability of albumosuria, will vary directly with the number of leucocytes attracted to the spot. For example, an aseptic infarct will soften much more slowly than a septic infarct, not chiefly because bacteria are present to destroy the dead tissue, but because the bacteria attract the leucocytes; similarly a tuberculous area is slowly or not at all absorbed because it does not attract leucocytes in any considerable number.

In view of these facts it is evident that albumosuria may occur under many and varied conditions, of which suppuration is but one, although the most prominent. For example, while the uterus is undergoing involution considerable quantities of albumose may be found in the urine, i. e., during the first three weeks after childbirth. Evidently, then, as with the leucocyte count, it is one thing to determine the existence of the symptom and another to draw proper conclusions. A simple method of detecting albumose is the first desideratum, and Yarrow recommends a solution of salicyl sulfonic acid, which produces with albumose a solution that clears up on heating, while the precipitate with other proteids becomes denser when heated. Again, it is important that a fresh specimen of urine be examined, since albuminous urines are soon digested by bacteria with production of albumoses. As a rule, the conditions that might cause albumosuria aside from suppuration can be excluded, and then the determination of this substance becomes of positive value. The instances of its usefulness are too familiar to need to be recalled, but, of course, appendicitis is prominent; here, Yarrow says, not only may the onset of suppuration be determined, but also the time of its safe encapsulation is indicated by the stoppage of absorption and elimination of albumose. If this is a general rule it will prove a great aid in determining the time of election for many sorts of operations. Another instance of the value of this symptom is seen in meningitis, for the tuberculous form will not produce albumosuria as does the suppurative. Resolution of pneumonic exudate, although entirely different from suppuration in its results, is chemically much the same as suppuration, and the albumosuria of resolving pneumonia has long been known. Of special interest to physiologists is the study by Yarrow of the urine of "over-feeders," for the failure to detect albumose indicates that the intestinal wall when normal can take care of all the albumose produced even with excessive diets.

It will be granted that albumose is not sought for in routine urinary examination by more than a very few, and since this symptom promises to be of value it is greatly to be hoped that Yarrow's work will lead others to study the occurrence of albumosuria, for in the matter of pathologic urine it is particularly true that only the accumulated results obtained in great numbers of cases by many investigators are of permanent value.

In passing we may mention the condition known as "Bence-Jones' albumosuria," about which a number of articles have been recently written, for it is to be distinguished from the true albumosuria of tissue disintegration. The Bence-Jones bodies, as the substance is more properly called, are not a true albumose at all, but, according to Simon,[2] it is more closely related to the water-soluble globulin. It is characterized by being coagulated by a relatively low heat, 58 C., as

1. American Medicine, 1903, v, 452.

2. Amer. Jour. Med. Sci., 1902, cxxiii, 939.

true albumose does not, and redissolving when heated higher, the precipitate again appearing when the urine is cooled down. Occurring as it does chiefly with the rare bone tumor, multiple myeloma, it seems to bear no relation to true albumosuria. Those interested in the subject are referred to the above article by Simon, and to articles by Bradshaw[3] and Boston,[4] where references to the literature will be found.

WHAT IS THE PROPER FUNCTION OF PUBLIC BOARDS OF HEALTH?

This question may well be raised at the present time, when it appears that health officials hold widely divergent views as to the proper scope of their activities. We take it that no physician will care to contend that the function of such boards is in any degree concerned with the health or well-being of any political party, although occasionally the solicitude of such a board for the success of the dominant party or its eagerness to oblige party leaders might suggest another view.

Setting aside, then, the always sinister influence of politics on the work of such a body, for what should a department of health stand? First, we must take for granted its strictly preventive functions. It must enforce vaccination and quarantines. It must abate nuisances. It must vigorously enforce the health laws and ordinances. But this is only a beginning. If it is the function of such a department to conserve the public health, then its scope and power must be constantly widened with the growth of the city, the development of the country and the growth of the science of sanitation. Nothing will compensate for the lack of a vigorous, fearless, scientific grappling with the difficult but immediate problems of public health and sanitation. It is to its board of health that a city should look for leadership, at least for co-operation, in the solution of the housing problem, for action in the prevention of tuberculosis, for fearless abatement of the nuisances created by certain great business concerns, such as glucose and rendering factories and various of the enterprises connected with abattoirs, for supervision of the health of school children and of the sanitary conditions in factories and stores where its citizens spend their working hours. Does this sound fanciful? It is merely a brief suggestion of the work of the New York Board of Health at the present day. If the board of health in any town lacks the power and equipment to carry out such a program its first duty is to make that fact known. If this is done in a manly and convincing manner there is no danger that popular response will fail.

Let us imagine, further, the value of a health campaign vigorously carried on by a state department of health. State universities employ teachers to travel over the state, to speak in every county on the health of cattle and the vigor of corn and the care of the soil. Why should not the state board of health send out teachers to speak on health and sanitation? If there were some popular knowledge of the premonitory symptoms of nervous breakdown our state insane asylums would soon feel the relief, and, in mere dollars and cents, the state would be repaid for its teaching.

City and state boards of health examine bacteriologic specimens for physicians free of charge. Why should not these boards also examine those conditions of water supply and sewage disposal, whose imperfections too frequently spread disease; why should they not distribute information in the remoter districts by means of lecturers and bulletins covering those simple precautions which would stay the spread of tuberculosis?

A public department of health should be not only an executive body administering laws and ordinances, making investigations, gathering and publishing reliable statistics, but it should be a great aggressive organ of popular education regarding personal and public hygiene, and all that pertains to public health and physical well-being.

THE PROTECTION OF THE BODY AGAINST ITS OWN DIGESTIVE FERMENTS.

Among the "old questions that are ever new" is the immortal problem: Why does not the stomach digest itself? A recent revival in interest is now evident, due to new observations along two lines, one of which is the demonstration of the presence of proteid-digesting enzymes in all the cells of the body, the other the direct study of "antiferments." Since it has been shown that all cells are capable of digesting themselves, after death of the tissue that contains them, the question naturally arose why they were not similarly digested during life. One of the popular solutions of the problem of the stomach and its failure to commit self-digestion was that the alkalinity of the blood in the walls of the stomach prevented the pepsin from acting on them, since it required an acid medium. But the fact that pancreatic trypsin acts best in alkaline medium rendered this explanation futile when applied to the conditions of self-preservation of the intestines, and the same thing applies to the autolytic ferments of the tissues. An ingenious method of attacking the problem lies in the ability of intestinal parasites to live in the active digestive fluids of the alimentary tract without suffering harm. That they are not impervious to the alimentary fluids is evident, since they obtain their nourishment by absorption from these fluids. As early as 1878 Fredericq observed that round worms from the dog's intestines could live for many days outside the body when kept in a solution of pancreatic juice. The early authors considered that the living tissues resisted the action of digestive ferments in the same way that they resisted the action of stains and of other substances, but this was more of a substitution of one problem by another than an explanation. E. Weinland found that not only do parasites resist the action of trypsin, but that they also rendered it incapable, to greater or less degree, of digesting other substances, and he thought that the para-

3. Lancet, Oct. 4, 1902.
4. Amer. Jour Med. Sci., October, 1902.

sites protected themselves by producing an antibody for the ferment, an "antitrypsin." Dastre and Stassano[1] have followed the study of the defense of the tenia serrata of the dog still farther, and seem to have proved very nicely the method of protection. As has now become well established, the pancreatic juice as first secreted from the gland is usually quite inactive to proteids. Its proteid-digesting enzyme is in an inactive form, trypsinogen, and needs to be acted on by the intestinal juice before it is changed into the active trypsin, this change being accomplished by the enterokinase of the intestinal secretion. Dastre and Stassano found that if an extract of the tenia was permitted to act on enterokinase about four hours, the effect was that the enterokinase was unable to render fresh pancreatic juice active. On the other hand, if the tenia extract acted on fresh pancreatic juice, and this later was added to enterokinase, it became active almost as if untreated. Further, if the enterokinase and pancreatic juice were left to act on each other for a time and then treated with tenia extract digestion is active, although less than in the controls. Therefore, it seems that the tenia extract prevents the enterokinase from activating the trypsinogen, rather than interfering with tryptic action.

Fermi first showed that fresh blood serum not only was not digested by pancreatic juice, but that it attacked and destroyed its tryptic enzyme, an observation that has since been abundantly verified. Here again the action seems directed more against the enterokinase than against the trypsin. Delezenne[2] finds that serum not only checks enterokinase, but also the substances that occur in leucocytes, bacteria and venoms that have similar activating effects on trypsinogen. This power of normal serum to prevent the action of ferments seems to be quite as general as it is remarkable. For example, Simnitzky[3] finds that papain is similarly affected, and that the serum of animals immunized to certain bacteria is not only antagonistic to the proteolytic ferments of the specific bacteria, but also to similar ferments of other bacteria.

On the basis of these observations it would seem that the tissues do not digest themselves and each other because they contain something that prevents the action of the digestive ferments. But since it is shown that this antibody does not affect the ferment that has been made active, but is only effective against the kinase, being in fact an antikinase, it seems to us that the problem is quite as open as before, for in the alimentary tract the parasites and the intestinal walls come in contact with large quantities of active ferment. Jacoby's demonstration that the ferments of the tissues are specific for their native tissues also fails to explain why the tissues are able to digest themselves when they are dead, but not when alive, except on the assumption that during life the circulation restores the equilibrium as fast as the intracellular enzymes break it down. The leucocytes also show a great power to digest proteids of all sorts, not only themselves, but also the other tissues, and even foreign substances like catgut sutures, provided only that the proteid is dead proteid. It seems to us that so far the antiferments, interesting and important as they are, have failed to explain the riddle of the failure of self-digestion of the body by its own enzymes.

1. Comptes Rend. Soc. Biolog., 1903, No. 3, p. 130.
2. Ibid., p. 132.
3. Prager Med. Wochenschr., Sept. 11, 1902.

TO PREVENT ADULTERATED DRUGS.

It has been decided by the Attorney-General of New York that the State Board of Pharmacy has the right to take samples from drugs kept for sale by druggists to determine whether they are pure and of the quality established by the Pharmacopeia. There was evidently some opposition to this, but the recent publication of the Board of Health on the extent of cheating shows its necessity. It would be an excellent thing if similar bodies in other states exercised the same authority and carried it out in practice. The amount of damage done by adulterated drugs can only be imagined, but it must be a serious one in the light of such facts as were brought out in New York. Things are probably equally bad in other states and the remedy is just as applicable.

LIQUOR SELLING BY DRUGGISTS.

According to the *Western Druggist* the last New York legislature passed a law regarding the sale of liquor by druggists which permits its sale, without a physician's prescription, in quantities of less than one pint, with a state revenue stamp fixed to the package. As a preventive of too regular or too frequent sales, the provision is included that not more than one sale can be made to the same person in the same twenty-four hours. We do not know whether this law is a concession to the patrons or to the druggists. If the former, it is a fraud in prohibition communities, nullifying the will of people, and if the latter, it indicates a greater degeneracy of the pharmaceutical profession in New York than we like to think probable. The sole function of the druggist in the sale of liquor should be to provide it as medicine when prescribed by medical authority. If he is allowed to sell it to whoever asks, he is practically on the level of the dramshop keeper and nothing better. The sale of liquor should be under direct police regulations, and to permit it as an unguarded function of pharmacists destroys this essential feature. The New York law appears to us to be a distinct step backward and it ought to have the opposition of the licensed liquor sellers as well as the temperance public generally.

DEEDS OF DARKNESS.

Though Armstrong was duly sent up, not exactly in a chariot of fire, his mantle seems to have fallen on others, this time in the East. There exists at present, according to the *Baltimore News* of May 6, in that city a rather sacrilegiously named institution, the "Christ's Institution Medico-Chirurgical and Theological College," conducted by six colored men, an establishment which gives all sorts of degrees, and especially medical ones. When incorporated in 1900 it had only one M.D. among its organizers, and he signed his mark instead of his name. Now they all have M.D.'s, besides D.D., B.D., etc., *ad nauseam*. The man who could not sign

his name in 1900 now appears as a Bachelor of Arts, Master of Arts, Bachelor of Divinity and Doctor of Philosophy. He is also professor of "linguistal," whatever that is. The degree of B.D. is given for $5 and a certain amount of study. Candidates for M.D. and D.D. apparently pay $50 per annum for their instruction. There is also a nurses' school attached to the concern that graduates its trained nurses. The establishment is in full blast and considerably patronized, not only by candidates for degrees, but by patients from the poor whites and colored people of the neighborhood. All this is almost directly under the shadow of the Johns Hopkins University It reminds one of the byway to sheol described by Bunyan under the walls of the celestial city.

HYDROPHOBIA.

We regret to see a regular medical journal indulging in sneers of "ignorant clamor" against hydrophobia. Hydrophobia is a reality, and a very serious one, and not all the sentiment or pseudo-benevolence of the zoophiles can disturb this fact. The destruction of all wandering dogs and all the pampered pets in our large communities would not compensate for the loss of a valuable human life destroyed through their agency. It is hard to see why a muzzling law can never be enforced; it has been enforced in Great Britain with the result of practically stamping out hydrophobia in that country. The editor of the monthly journal referred to remarks that the statistics of the New York Board of Health will probably show that perhaps two persons died of the infection from dog bites in four years. We can not dispute this from actual knowledge of the facts, but if statistics show that there were only two deaths from rabies in four years in New York, either the statistics are very far from being reliable or else New York has a much better record than other cities in this country. The fling at the New York Medical Association is unworthy. The Association is in much better business in agitating against hydrophobia than is the journal in belittling the importance of the disease and encouraging a false sense of security which may prove fatal to innocent individuals.

"DRUGS THAT ENSLAVE."

A short time ago we noticed some rather striking and alarming statements made in newspapers in regard to cocain addiction. Also in a recent number of the *Philadelphia Medical Journal* Dr. Simonton of Pittsburg gave an account of the spread of cocain under his observation. From the facts given by him, as well as those obtained elsewhere, it seems that the introduction of this drug to the public has been, and is likely to be still, a curse to the community. Its therapeutic advantages, and they are not slight, are hardly balanced by the evils that may come from its self-prescription. It is especially among the lowest classes that its use seems to be most general, though others are not exempt; Simonton speaks of even railway employes being victims to the habit. The negroes of the South, in the cities especially, seem to be becoming devotees of the cocain habit. The facts brought out would necessarily imply that certain druggists have been criminally active in making profit by spreading the sale of cocain. Some physicians have perhaps in the past thoughtlessly prescribed cocain in such a way that the patient has had it renewed and thus set up the habit. It is a matter that deserves the attention of the members of the medical profession, and they can not neglect it. Cocain is an attractive drug to prescribe, for its effects are so quick and decided, but it is, at the same time, one of the most dangerous tools we can use. Cocain addiction, however, is not the only vice that seems to be growing. In fact, a certain portion of the public seem bound to intoxicate themselves with almost every abomination that can produce a temporary effect. It is said that boys in some eastern cities have gotten into the habit of fuddling with gasoline, stealing it from suburban street lamps or from tank cars. In a recent case a boy in attempting this was blown up, the explosion injuring at the same time several others who were with him.

Medical News.

COLORADO.

Banquet to Dr. Tillmanns.—Dr. Henry Tillmanns, Leipsic, who is visiting America, was given a banquet at the Antler's Hotel, Colorado Springs, by Dr. B. P. Anderson of that city. A number of the profession were present, and toasts were responded to. The famous surgeon spoke in great appreciation of the reception extended to him in this country.

ILLINOIS.

Diseases at Bridewell.—Dr. Sceleth, physician at the Bridewell, Chicago, reports 82 patients in hospital, including 19 cases of pneumonia and 24 of delirium tremens.

New Trades Union.—Hospital attendants and nurses at the Cook County Institutions, Dunning, met, May 12, and organized a union with an initial membership of 160.

To Complete Hospitals.—The legislature has appropriated $200,000 for the completion of the hospital for the incurable insane at Bartonville, and $200,000 for improvements at the insane hospital at Watertown.

Personal.—Dr. and Mrs. William S. Pearce, Waukegan, celebrated their golden wedding anniversary, May 16.——Dr. and Mrs. H. H. Deming, Chicago, have returned after spending the winter in Cuba and Florida.——A banquet was tendered Dr. T. J. Bluthardt, Chicago, newly-appointed consul to Bonn, prior to his departure for his post of duty.——Dr. David M. Paulson, Chicago, sailed for Europe, May 15.

Osteopathy Bill Vetoed.—The governor has vetoed the bill which provided that:

Licenses to practice osteopathy shall be granted by the state board of health to all applicants of good moral character who pass the regular examination of such board in anatomy, histology, physiology, obstetrics, gynecology, pathology, urinalysis, toxicology, hygiene and dietetics, diagnosis, theory and practice of osteopathy, and present to said board a diploma from a regular college of osteopathy maintaining the standard of the associated colleges of osteopathy in its requirements for matriculation and graduation, and requiring personal attendance for at least four terms of five months each.

Chicago.

Care for the Babies.—The department of health notes a decrease in the death rate last week among infants under one year of age, and considers it, in part at least, due to the urgent crusade now being made for pure milk. The department is circulating in seven languages directions for securing and recognizing good milk and caring for it before use.

Too Emphatic Statements.—Dr. T. S. Middleton, Chicago, who is given in Polk's directories as being both "R." and "H." and has having graduated at the Medico-Chirurgical College of Philadelphia in 1897; in the Illinois Medical Blue Book "Royal Coll., London; Wurzburg Univ.; Vienna Medic.; Chi., Phila., 1880, 1884, 1888," is evidently desirous of still more notoriety, as the following will show:

CHICAGO, May 26, 1903.

To T. S. Middleton, M.D.:—I have been reluctant to believe that you were correctly quoted in recent interviews published in some of the Chicago newspapers. But the report made to me yesterday by Dr. W. K. Jaques, director of the city laboratory, and corroborated

by a reporter, leaves no room for further doubt that the interviews as published were substantially correct, or, as you said to Dr. Jaques on Friday evening, "all true and much more," implying that you had not told the worst.

Briefly summarized, and largely in your own language, your statements are as follows:

"Within the last month I lost twelve babies with something like marasmus. Then I began to analyze the milk and found formalin in every bit of it." "I found as much as three parts of formalin to ten of milk." "I use lime and blotting paper" in analyzing for formalin.

"There were nearly 125 deaths of milk fed infants and children on Wednesday of this week."

Each and every one of these sensational and mischievously alarming statements is absolutely and unqualifiedly false.

You have reported "within the last month" not one death of a baby to the bureau of vital statistics, as you are required to do by the state law and city ordinance with all deaths occurring in your practice. The only death you have reported since April 20 was that of a woman 77 years old, died on May 14.

You have failed to furnish any clew whatever to the identity of any one of these "twelve babies," although you promised to do so. Inquiry shows that you have not referred any one of these alleged deaths—due, as you assert, to formalin poisoning—to the coroner for investigation, as you are also required by the law to do in all cases of suspected poisoning.

You have not found "as much as three parts of formalin to ten of milk," and this mixture fed to one of your "twelve babies." In much less proportion formalin curdles milk and the formaldehyd gas given off would instantly strangle any person, baby or adult, who should try to swallow it.

You have never found formalin in any milk by your "lime and blotting paper" method. It is a chemical impossibility—an absurdity.

The standard and approved test for formalin is sulphuric acid, and in the thousands of examinations made for this agent by the laboratory it has never been found in greater proportion than one part of formalin to 10,000 parts of milk. And yet the test is so delicate and conclusive that it has been found in so small a proportion as 1 to 1,000,000 parts of milk, and the dealer was prosecuted and convicted on this evidence. "Lime and blotting paper," forsooth.

There were not "nearly 125 deaths of milk fed infants and children" last Wednesday, and you have no possible means of knowing on any given day how many deaths, even "nearly" there were on that day. The total deaths under 5 years of age for the whole week was 178—including those who died from convulsions, diarrheal diseases, diphtheria, measles, scarlet fever, and whooping cough. The highest number of deaths of infants and children under 5 years reported during the week was 43 on Monday, the 18th, but even the registrar of vital statistics could not know that until the following day.

In defense of the reputation of the city, which you have so recklessly assailed as one in which infant and child life is needlessly sacrificed; in justice to this department, whose working efficiency and morale have been impaired by your statements and others as baseless and mischievous; and in the interest of all honorable members of the medical profession—it becomes my duty to prefer charges against you before the State Board of Health for "unprofessional and dishonorable conduct," within the meaning and intent of the medical practice act, to the end that your license to practice medicine in the State of Illinois may be revoked. I am, sir,

ARTHUR R. REYNOLDS, M.D.,
Commissioner of Health.

KENTUCKY.

State Board of Health Officers.—On May 22 Dr. J. M. Mathews was re-elected president for two years; Dr. J. N. McCormack, secretary for four years; Dr. F. T. Eisenman, state veterinarian.

Cross-Border Troubles.—Dr. A. P. Hauss, New Albany, Ind., has protested against a decision of the Kentucky State Board of Health that he could not reside in New Albany and practice in Louisville, the ground for the refusal being the ruling of the Indiana State Board refusing residents of Kentucky a license to practice in Indiana, the language of the laws being identical in the two states.

Bad Water.—Secretary McCormack, in his report before the State Board of Health, referred in an exhaustive manner to the epidemics of smallpox in the state, the sources of the same, the difficulty of having many county courts pay the expenses of stamping out an epidemic, and the use of humanized virus in the country districts. Attention was called to the pollution of water supplies and a suggestion was made that the legislature be petitioned to pass stringent laws governing this question. A free examination of suspected water will be made by the state college if sent by a county board of health.

Sanitation in Railway Cars.—The annual meeting of the State Board of Health of Kentucky was held May 22 with a full attendance. President Mathews, in his report, referred to the necessity for action in regard to the sanitary condition of sleeping cars and day coaches. The report of the special committee on this question was heard, after which attorneys for the Pullman Car Company and the railroads asked for a hearing, which was granted. A special committee was then appointed to draw up regulations for the disinfection of cars to be referred to a called meeting of the board in June for final adoption.

MARYLAND.

The Biological Laboratory at Beaufort, S.C., will be under the directorship this year of Dr. Caswell Grave of Johns Hopkins. A large number of members of the graduate department of biology will spend the summer there in special research.

New Eastern Shore Hospital.—The cornerstone of the new hospital at Cambridge was laid May 26. The contract price is $35,000. Mr. John E. Hurst, a merchant of Baltimore, gave $25,000 of this. It is expected to be ready for patients by June 1, 1904. The present hospital is in two dwellings, and has fifteen or twenty beds.

Baltimore.

The deaths last week numbered 198, being an annual rate per 1,000 of 18.44 (white 16.03, colored 31.70). Consumption and pneumonia caused 24 and 18 deaths respectively.

Eastern Dispensary Staff.—The following were elected as the medical staff of the Eastern Dispensary, May 19: Dr. R. S. Kirk, superintendent, Drs. A. Hebb and A. L. Tumbleson, assistants.

The new staff of the Maryland General Hospital, connected with the Baltimore Medical College, consists of Dr. J. M. Delavett, resident physician, and Drs. W. G. F. Olmstead, A. W. Nelson, S. T. Cavins, E. G. Bray and H. M. Hutchins, assistants.

New Quarantine Building.—The board of estimates has appropriated $6,383 from the contingent fund for the erection of a detention barracks at quarantine. The building will accommodate 100 persons and will have four wards, one for each sex of each color.

The Charles Frick Research Fund has, by the beneficence of some citizens, been founded at the University of Maryland, the object being to found a memorial of this great investigator, who lost his most promising life forty-three years ago from diphtheria. It is an appropriate way to perpetuate his memory by reviving and perpetuating in the university where he gained his fame, those researches in diseases of the blood, urine and fevers which immortalized him a half century ago.

At St. Joseph's Hospital the resident surgeons for the next two years will be Dr. W. L. Burke, Baltimore Medical College, 1902, and Dr. W. E. Kurtz, University of Maryland, 1903. The resident physicians will be Dr. T. J. O'Donnell, University of Maryland, 1903, and Drs. J. A. Chatard and J. F. Fisher, both of Johns Hopkins, 1903. Of the old staff Dr. T. M. Green has gone to Wilmington, N. C.; Dr. Frank K. Boland to Atlanta, Ga.; Dr. W. E. Dolan to Boston, and Dr. H. J. Kearny to a New York hospital.

Personal.—Dr. Hector H. Goodman has returned from an extended tour through Europe and Palestine.——Dr. Charles H. Tilghman has been elected vice-president of the Queen Anne's Railroad Company.——Dr. Ira Remsen, president of Johns Hopkins University, was one of the speakers at the centennial of Justus Liebig's birth in New York, giving his personal reminiscences of the great chemist.——Dr. C. B. Farrar of the staff of the Sheppard and Enoch Pratt Hospital, has had his leave of absence extended so that he may continue his studies in physiologic psychology abroad. He has declined an appointment in one of the psychologic laboratories under the Carnegie fund.——Drs. Seymour D. Ludlam and Glanville G. Rusk, of the same institution, have been offered and have accepted positions, the former as assistant physician at the Friends' Asylum, Frankford, Pa., the latter as assistant in the laboratory of the New York State Hospital for the Insane, Ward's Island. ——Drs. Franklin P. Mall and Warren H. Lewis sailed for Europe, May 25.——Dr. Jas. Bordley, Jr., sailed for Europe, May 30.

The graduating class at the University of Maryland School of Medicine number 96. The commencement was held May 19, Prof. Francis P. Venable of the University of North Carolina being the orator. The president of the class was Dr. A. L. Wilkinson. The prize winners were: First, Dr. Howard S. Holloway, Maryland; certificates of honor were given to Drs. J. Rosett, Maryland; G. C. Lockard, Maryland; E. H. Mullan, Maryland; F. C. Moor, Florida, and F. G. Wright, Virginia. Appointments were made as follows: Assistant resident physicians, University Hospital, Drs. H. S. Holloway, C. T. Young, and F. G. Wright; assistant resident surgeons, University Hospital, Drs. A. M. Shipley (reappointed), E. H. Mullan, W. Alstead and W. R. Hunter; assistant resident gynecologists, Drs. W. K. White, H. W. Brent and R. W. Fisher; resident pathologist, Dr. F. W. Weed. Drs. C. T. W. Sappington and J. H. Iglehart were appointed resident physicians at the

Maternity Hospital, and Dr. A. L. Wilkinson, assistant resident physician at Bayview Hospital.

MASSACHUSETTS.

Vaccination Suit Fails.—A suit brought against the town of Hyde Park by two children because they were excluded from school, through failure to comply with the school regulations in regard to vaccination, for $10,000 each, resulted in a disagreement of the jury.

The Children's Island Sanitarium, located in Salem Harbor, reports that during last season they cared for 229 sick children; 32 of whom had hip disease and 23 Pott's disease. Children from 2 to 10 years old are admitted and kept for several weeks. The season opens about June 1.

Bequests.—The Free Hospital for Women in Brookline receives $20,000 as a permanent fund for the general purposes of the hospital by the will of the late Robert C. Billings.——Dr. Edward de la Granja, who died May 11, left his entire property to the Massachusetts Maternity Foundling Hospital, including his private hospital in Shawmut avenue.

Boston.

Heat Causes Sickness.—The heat of the past week, while at no time reaching 90 F., produced several cases of sunstroke, most of whom were treated in the new City Hospital Relief Station.

One Smallpox Case.—The first case of smallpox to be reported in Boston for several weeks, has developed in a soldier stationed at Fort Strong, one of the harbor defenses, who had been in the city on leave of absence.

Quarterly Death Report.—Two thousand, nine hundred and eighty-two deaths were reported in Boston during the first quarter of the year, a rate of 20.07. Infectious diseases, except scarlet fever, were much less prevalent than last year.

The open-air gymnasium for women and girls at the Charlesbank, Boston, was reopened, May 15. Here, under a competent instructor, they have the same advantages offered in many places to men and boys. An enrolment of 200 working girls shows how the offer is appreciated.

Boston Death Report.—In spite of the heat, the reported deaths decreased to 196 for the week ending May 23, a rate of 17.43 per 1,000. Pneumonia was responsible for 26 of these; whooping cough, 5; heart disease, 15; bronchitis, 4; diphtheria, 6; scarlet fever, 4; typhoid fever, 3, and tuberculosis, 27. The number of children who died under one year was 30, and under five years 52, while of those over 60 there were 35.

The American Social Science Association devoted one day of its annual meeting to health topics. Dr. Samuel H. Durgin, chairman of the Boston Board of Health, presided. Dr. S. W. Abbot, secretary of the State Board of Health, spoke on "Possibilities of the Medical Examiner System"; Dr. Robert Amory on "Deaths Caused by Poison"; Dr. Edward M. Hartwell on "The Relation of Death Rates to Growth Rates"; Dr. Charles V. Chapin on "Preventive Medicine and Natural Selection."

MINNESOTA.

Osteopath Board Named.—Governor Van Sant has signed the bill regulating the practice of osteopathy and has named a state board of examiners.

Personal.—Dr. Burton J. Merrill, Stillwater, has been appointed a member of the State Board of Health, vice Dr. M. H. Reynolds, St. Anthony Park.——Dr. Ray Humiston, St. Paul, has been appointed police surgeon, vice Dr. Paul Cook, resigned.

Smallpox.—During March and April four deaths occurred from smallpox in St. Paul, and the health commissioner fears a further spread of the disease before summer.——Secretary Henry M. Bracken, of the State Board of Health, has issued a report of the smallpox conditions in the state for the week ended April 25, which shows a total of 107 cases as compared with 162 for the preceding week and 193 for the week previous. Hemorrhagic smallpox has appeared in Hibbing on the Masaba Range. One death has occurred, and it is reported that there are more than 20 cases in the town.

Medical Course Not Shortened.—Dr. Thomas G. Lee, Minneapolis, has sent the following communication to THE JOURNAL:

> Permit me to correct a statement made in THE JOURNAL, May 2, 1903. On page 1226 it is stated that the medical course at the University of Minnesota has been shortened. This is not the case. The length of school year has just been lengthened from eight and one-half months to nine months. The medical student must take four full years in the medical department. There has been recently established a six-year combination course leading to the degrees of B.A. and M.D. In this course a student takes the first two years in the academic department, then enters the medical department, and at the end of two years receives B.A. and two years later M.D. The present entrance requirement in the department of medicine is one year's academic work, and two years' academic work will be required for entrance in 1905.

MISSOURI.

Mudd's Will Filed.—The will of the late Dr. Henry T. Mudd, St. Louis, was recently filed for probate. The estate is valued at several hundred thousand dollars.

Dr. Bauduy Injured.—Dr. Jerome K. Bauduy, St. Louis, was seriously injured, May 13, by being run over by a wagon, whereby he sustained a concussion of the brain and other injuries.

Personal.—Dr. Herman L. Nietert retired from the superintendency of the City Hospital, St. Louis, which he had held for more than four years, and was succeeded by Dr. John Young Brown.

Many New Physicians.—On May 14 the medical department of Washington University, St. Louis, graduated a class of 53. The degrees were conferred by Chancellor W. S. Chaplin of the university and the venerable Dr. Elisha H. Gregory delivered the address to the graduates.

New Officers for Medical Colleges.—At the annual meeting of Central Medical College, St. Joseph, the following officers were elected: Dr. Thompson E. Potter, president; Dr. Chester A. Tygart, secretary; Dr. William T. Elam, treasurer, and Drs. O. Beverly Campbell, Hubbard Linley, M. F. Weymann and George C. Potter, directors.

NEW YORK.

Buffalo.

The Ewald Reception.—A reception was given to the members of the Buffalo Academy of Medicine by Dr. Charles G. Stockton at the Saturn Club, May 20, in honor of Professor Ewald of Berlin.

Deaths for the Month.—The April report for the department of health shows an annual death rate of 15.72 per 1,000. The principal causes of death were as follows: Pulmonary consumption, 51; typhoid fever, 13; pertussis, 6; diphtheria, 7; debility, 41; alcoholism, 5; cancer, 18; apoplexy, 14; meningitis, 16; arteriosclerosis, 7; valvular disease of the heart, 32; bronchitis, 16; pneumonia, 27; appendicitis, 4; nephritis, 18; violence, 41. Total deaths for April, 1903, were 498, as compared to 436 for 1902. From a bacteriologic point of view the Niagara River water was in fair condition.

New York City.

Foreign Surgeons in New York.—Prof. Hans Kehr, Halberstadt, Germany, was given a dinner in his honor by Dr. Willy Meyer. By the invitation of the same gentleman, Professor Kehr gave a clinic at the German Hospital. He was also invited by Dr. B. Farquhar Curtis to hold a clinic at Bellevue Hospital.——Professor Ewald of Berlin, Germany, read a paper before the German Medical Society, May 26. He is also expected to take part in the scientific program of the meeting of the Medical Society of the County of New York on June 3.

OHIO.

To Fill Chair of Physiology.—Dr. J. J. R. MacLeod, London, England, a graduate of Aberdeen in 1898, and at present demonstrator of physiology in London Hospital Medical College, has been appointed professor of physiology in the medical department of Western Reserve University, Cleveland.

Faculty Changes.—Several changes have been made in the faculties of Ohio Medical University, Columbus, Drs. Thomas G. Youmans and Darlington J. Snyder having resigned. Dr. Youmans will be succeeded by Dr. McKendree Smith. Drs. Ernest Scott, E. A. Hamilton, Scott Fulton and H. H. Snively were added to the medical faculty.

New Faculty Members.—Starling Medical College, Columbus, has made the following faculty appointments: Dr. Harvey W. Whitaker, professor of diseases of the nose and throat; Dr. Starling S. Wilcox, professor of genito-urinary diseases; Dr. William K. Rogers, professor of otology; Dr. John Dudley Dunham, professor of bacteriology; Dr. William D. Deuschle, professor of mental and nervous diseases; Dr. Charles B. Morrey, professor of physiology; Dr. Dickson L. Moore, pro-

fessor of diseases of children; Dr. Earl M. Gilliam, associate professor of gynecology; Dr. Isaac B. Harris, lecturer on physical diagnosis.

Cincinnati.

Personal.—Drs. C. R. Holmes, A. B. Isham and Louis Schwab have been appointed medical directors of the Cincinnati Hospital.——Dr. Louis E. Cook has been appointed pathologist to the branch city hospital for tuberculosis.

The commencement exercises of the Medical College of Ohio were held May 2. Addresses were delivered by Drs. P. S. Connor and T. A. Reamy and by Prof. Howard Ayres, president of the university. The graduating class consisted of 53, a number of whom secured positions as internes to the various hospitals: Cincinnati Hospital, Dr. Harry E. Shilling, Troy, Ohio; Dr. Charles Goosman, Cincinnati; Dr. Alfred Vos, Cincinnati; Dr. Sidney, Cincinnati. To Christ's Hospital: Drs. Charles A. Langdale, Cincinnati; Dr. Gordon F. McKim, Burlington, Ky. To the Jewish Hospital: Dr. Charles E. Hauser, Cincinnati, and Dr. Frank P. Zerfass, Oxford, Ohio. To St. Mary's Hospital: Dr. Claude Youtsey, Newport, Ky., and Dr. Karl G. Zwick, Covington, Ky. To the Good Samaritan Hospital: Drs. Grear H. Baker and Merrick L. Bates, Cincinnati, and Dr. Robert Cofield, Bethel, Ind. To Speers Memorial Hospital, Dayton, Ky.: Dr. Walter C. Cook, Cincinnati. The commencement exercises of the Miami Medical College were held May 1, the college graduating a class of 40, one of the largest classes of recent years. Addresses were made by the dean, Dr. J. C. Oliver, and by the Rev. Dr. David Philipson. Internships were secured by the following: Drs. Earl H. Bruns, Merle Flenner, H. H. Johnson, F. W. Krueger, Cincinnati Hospital; Dr. Park Gilmore, St. Mary's Hospital; Dr. J. H. Grossman, Marine Hospital; Drs. W. C. Williams and C. J. Harris, German Deaconess Hospital; Dr. A. J. Markley, Jewish Hospital. The meeting of the alumni of the Miami College was held on the evening of May 1 and some two hundred sat down to the banquet. Dr. Millikin of Hamilton acted as toastmaster, and addresses were made by Drs. Chapman of Toledo, Fackler and others. Dr. Joseph Ransohoff has been appointed under the new code trustee to the Cincinnati Hospital.

PENNSYLVANIA.

Chester Hospital has an anonymous donation of $2,000 for a sun parlor.

Pseudo Butter in Almshouse.—An agent for the Dairy and Food Department has discovered that the managers of the Williamsport Almshouse have been feeding oleomargine to the inmates. The maximum penalty is $1,000 fine and imprisonment. The managers are to be prosecuted.

Foreigners and Insane.—In his recent report to the board of managers of the Friends' Asylum for the Insane, at Frankford, the superintendent, Dr. Robert H. Chase, regards insanity to be on the increase. He considers that in the United States immigration is a potent factor in this increase; while only one-eighth of the population is foreign born, one-third of the insane belong to this class. The high pressure and rapid pace of living in densely populated centers is another potent factor ascribed to the results. A high value is set on the occupation of the insane in their treatment.

Report of Smallpox in the State.—At a meeting of the State Board of Health, May 23, the chief subject for consideration was smallpox, and its prevalence in certain localities. In the lumber camps about Cross Fork, Potter County, 75 cases of the disease are said to exist. The locality has been placed under strict quarantine, railway and postal communication being cut off. Dr. Benjamin Lee, secretary, reported that during March and April there were 1,416 cases of smallpox, with 61 deaths in Pennsylvania. Included in this number are: Philadelphia, 219 cases, 20 deaths; Pittsburg, 153 cases, 15 deaths; West Farfield township, Crawford County, 137 cases; St. Mary's, Elk County, 100 cases.

Philadelphia.

The new maternity and nurses' home of the West Philadelphia Hospital for Women, including four adjoining houses, was opened with a reception on April 28. By improvements which cost about $15,000 the hospital can accommodate 60 patients.

Physicians Dine.—On the evening of May 21 the celebrated Clover Club, of which Colonel A. K. McClure is president, gave a "doctor's dinner," at which the guests were chiefly prominent physicians, some fifty in number. Lieutenant-General Nelson A. Miles was one of the guests of honor.

Pennsylvania Hospital Annual Report.—At the recent annual meeting of the board of managers of the Pennsylvania Hospital it was reported that the expenditures during the past year were $135,185, which is $37,000 in excess of its income. During the year 40,701 patients received treatment.

Heat Strokes.—A period of excessive heat in Philadelphia and vicinity for the week ended May 23 resulted in a considerable number of cases of heat stroke. The temperature has rarely been so high in May; the maximum was reached on the 20th, the thermometer recording 92 degrees, making Philadelphia, for the day, the hottest city in the country.

Women Graduate.—May 20 the Woman's Medical College of Pennsylvania graduated 30. Dr. Ella B. Everett, professor of gynecology in the college, delivered an address on "The Future of Women in Medicine." General George M. Sternberg, surgeon-general of the U. S. Army, retired, gave an address on the "Newer Knowledge and Prophylaxis of Infectious Diseases."

To Inspect Foreign Hospitals.—Dr. Geo. W. Holden, Denver, Col., recently inspected the Henry Phipps Institute for the treatment of tuberculosis. Dr. Holden represents Lawrence Phipps, who recently gave $500,000 for the building and equipment of a hospital in Denver for the treatment of consumptives. Dr. Holden has gone abroad to study European hospitals for the treatment of tuberculosis.

Commencement.—May 23, at the commencement exercises of the Medico-Chirurgical College, 93 students were graduated in medicine. The orator of the occasion was Prof. Arthur E. Kennelly, Sc.D., of the department of electrical science of Harvard College. The previous evening the annual meeting of the alumni association was held, at which ex-Attorney-General John P. Elkin made an address. The annual banquet followed.

Hospital Appointments.—Dr. Mary W. Griscom has been appointed chief of the obstetrical staff of the Woman's Hospital. Associated with her are Dr. Elizabeth L. Peck, senior member of the staff of the West Philadelphia Hospital for Women, also a member of the staff of the Philadelphia Hospital, and Dr. Sarah H. Lockrey, elected to the vacancy caused by the retirement of Dr. Anna E. Broomall. The latter recently succeeded Dr. Ida Richardson as visiting physician to the West Philadelphia Hospital for Women.

Foreign Surgeons Hold Clinics.—Prof. Hans Kehr of Halberstadt, Germany, on his way to and fro to the Congress of American Physicians and Surgeons, held a number of clinics in Philadelphia, chiefly on the line of gall-bladder surgery. While in the city he was the guest of Dr. Max J. Stern of the Polyclinic, but was entertained by several of the prominent men of the profession. Prof. J. von Mikulicz-Radecki of Breslau held a clinic at Jefferson Hospital on May 16. A large number of the profession were present.

Cerebrospinal meningitis made its appearance at the League Island Navy Yard on April 1, since which time four of the apprentice sailors have died of the disease. There are said to be six sailors in the Hospital of the Naval Home suffering with the disease. The outbreak is believed to be due to the crowded condition on some of the receiving ships. The medical officials, including the chief medical inspector of Philadelphia, state that the disease is not "spotted fever," and that there is no cause for fear of the spread of the affection. Tents are being used to relieve the congestion of the vessels, and it is believed that the disease will soon be stamped out.

Health Education Campaign.—Dr. Edward Martin, the new director of the department of health, has announced his intention of conducting the department on educational lines. It is his purpose to ask the County Medical Society and the College of Physicians to aid in bettering the health conditions of the city, by taking up for discussion practical subjects such as preventive measures of disease. The source of typhoid fever infection, chiefly through the water supply, is emphasized. The Pediatric Society is asked to formulate regulations setting a standard for the milk supply, and to offer suggestions about infant feeding. Impure, unfiltered drinking water has been used in most of the public schools and the board of education has been asked for a report on the matter to the end that pure water may be supplied. The Pennsylvania Society for the Prevention of Tuberculosis has been asked to co-operate with the department in the warfare against tuberculosis. A plan is on foot to have the subjects of the latter disease who are inmates of the Philadelphia Hospital, to sleep in the open air, temporary provision for the same being made on the roof of the hospital.

Many Bequests.—By the will of the late Hiram Brooke, a retired dry-goods merchant of Philadelphia, $77,000 was bequeathed to charities. Among many bequests are the following: Philadelphia Dispensary, $500; Pennsylvania Hospital, $2,000; St. Joseph's Hospital, $1,000; Friends' Society for the Relief of the Sick, $2,000; Philadelphia Nurses' Home, $500; Insane Department of Pennsylvania Hospital, $1,000; St. Timothy's Hospital, $500; Home for Consumptives, Chestnut Hill, $500; Jewish Hospital, $1,000; German, Jefferson, Hahnemann and Episcopal hospitals, each $2,000; Bethany Dispensary, $2,000. Louis Rosenberg has given to the Jewish Hospital $5,000, to endow a bed in honor of his wife, and a like amount has been given by the sister and brothers of Herman Jonas, to found a bed in his memory. Nineteen hundred and sixteen subscribers to the Federation of Philadelphia Jewish Charities contributed $123,039.50 to the organization the past year. In the allotments made the Jewish Hospital Association received $30,000; the Jewish Maternity Association $9,000; the National Hospital for Consumptives, Denver, Col., $3,000. Among the bequests from the estate of Mary A. Allison were those of $2,500 to the Presbyterian Hospital, and $5,000 to the Methodist Hospital.

TENNESSEE.

Personal.—Dr. William Krauss announces that he is no longer connected with Memphis Hospital Medical College.

College Opens.—The medical department of the University of the South, Sewanee, opened for its eleventh year, May 7, with an initial registration of sixty.

Accident to Physician.—Dr. William Morrow, Nashville, was run over by a train recently, and his left hand was so badly crushed that amputation was necessary.

A Large Graduating Class.—A class of 195 was graduated, April 27, from Memphis Hospital Medical College. Dr. William B. Rogers, dean, delivered the faculty address; Colonel Carroll, president of the board, made the address to the graduating class, and conferred the degrees, and Dr. Rogers delivered the diplomas to the class.

GENERAL.

The Meningitis Outbreak.—Two additional cases of meningitis developed last week among the sailors at League Island Navy Yard. Most of the recruits are now encamped in tents, and no serious extension of the disease is feared.

Association of Medical Librarians.—The sixth annual meeting of this association was held in Brooklyn, N. Y., May 16, 1903. A number of librarians and physicians representing medical libraries throughout the country were present. Papers and discussions were contributed by Mr. C. P. Fisher of Philadelphia, Dr. T. G. Lee of Minneapolis, Mrs. G. W. Myers and Dr. E. H. Brigham of Boston, Mr. J. S. Brownne and Dr. W. S. Dennet of New York, Mr. A. T. Huntington of Brooklyn, and others. The officers elected for the ensuing year are: President, Dr. William Osler, Baltimore; vice-president, Dr. Abraham Jacobi, New York; secretary, Mr. Albert T. Huntington, Brooklyn, and treasurer, Dr. George D. Hersey, Providence.

FOREIGN.

Serum Diagnosis of Meat Poisoning or Botulismus.—The German war department has issued orders that in case of suspected poisoning from meat the serum test shall be applied, as it has been found that the serum of persons convalescing from botulismus has marked agglutinating properties for the enteritis bacteria. The results of this test may enable a retrospective diagnosis to be made, even several days after recovery.

Pribram's Jubilee.—The thirtieth professional anniversary of Professor A. Pribram was celebrated May 14 at Prague, with much ceremony. The *Prager Med. Wochft.* of that date contains the complete list of the scientific works of this eminent savant and those of his pupils, filling several pages. Three numbers of the *Deutsches Archiv f. klin. Med.*, vol. 74, formed a jubilee number in his honor, the articles all emanating from his clinic.

Jubilee for Professor Runeberg.—The *Zeitschrift f. klin. Medicin* has issued a Festschrift in honor of Professor J. W. Runeberg, who has completed his twenty-fifth year in the chair of clinical medicine at Helsingfors. Twenty original articles were contributed by his present or former pupils. We notice that one of the prominent pictures at this year's Salon at Paris is a portrait by a Finnish artist of Runeberg in his apron at the bedside of a hospital patient.

Medical Study Trip in Germany.—The third annual study trip of physicians to the watering places of Germany from Kreuznach, Ems, Nauheim, Wildungen and Oeynhausen, etc., to Pyrmont, commences at Mayence, September 8, and terminates at Cassel the day before the opening of the Naturforscher Congress there September 20. The first stage of the journey will be by steamer on the Rhine. These study trips are becoming more and more popular every year, and the party receives almost an ovation at each health resort visited.

Campaign Against Yellow Fever in Brazil.—According to an official announcement by the Brazil Board of Health, disinfection will no longer be enforced in cases of yellow fever. As it has been established that the mosquito is the only means of transmission of the disease, prophylaxis will be restricted to isolating the patient, in his own house, if desired, screening doors and windows and using pyrethrum, formol and other insecticides in the house and in those adjacent. Physicians are urged to report all cases on suspicion, without waiting for a positive diagnosis, and the lay press, as the guide of national opinion, is entreated to uphold the authorities in this campaign on new lines.

Campaign Against Quacks in France.—De Lavarenne has been publishing in the *Presse Médicale* a series of articles urging concerted and vigorous action against the ads of charlatans, and emphasizing the harm done by them both to the public and medical profession. The matter has been taken up by Dr. Maxwell, who is attorney general for the Bordeaux Court of Appeals, while he is at the same time a physician. He is collecting material for a medicolegal study of the subject, and appeals to the profession at large for data. He wishes to have samples of particularly flagrant ads forwarded to him, and also all information of injury done by the quack practices or by the delay imposed and of excessive charges.

The Outlook for the Consumptive.—Lutaud protests editorially in his *Journal de Méd. de Paris* against the exclusion of tuberculous subjects from various occupations, which is being advocated in France. He thinks that the campaign against tuberculosis is becoming more and more "war on the tuberculous." If the state closes all avenues of employment for them, official clerkships, positions as teachers, etc., then, he argues, the state must either kill them off or else support them. If the latter, the state will in time be besieged by troops of impostors simulating tuberculosis to be supported without work. Lutaud has never accepted the prevailing bacteriology and exclaims in conclusion: "Oh Theory, Theory, how many stupid things are done in thy name!"

The Contract Practice Troubles in Germany.—The Reichstag has modified the sickness insurance legislation, as anticipated, to increase the maximum period of support from thirteen to twenty-six weeks, and in maternity cases from four to six weeks, and also to include the venereal diseases in its provisions. The new law does not mention the question of remuneration of the physicians, but five of the deputies, representing all the political parties except the socialists, delivered able speeches on the exploitation of the medical profession by the sick benefit societies, and other matters affecting the relations between the profession and the "Kassen," calling on the government to interfere to prevent the degradation of the medical profession. One exchange remarks that the subject could not have been presented better or more convincingly by any medical man, and this unprecedented pleading on behalf of the profession is accepted as a very gratifying sign. The Reichstag in consequence adopted a resolution before it dissolved commending the matter to the action of the next parliament, suggesting the appointment of a standing committee of representatives of the medical and lay officers of the "Kassen."

International Congresses in Europe.—The third International Congress of Thalassotherapy (marine) met at Biarritz, April 19 to 21, with a numerous attendance. Addresses were made by Liebreich, Berlin; Winternitz, Vienna, and Robin, Paris. The International Antialcohol Congress convened at Bremen just before, and the second International Congress of the Medical Press followed at Madrid, preceding the great International Medical Congress. The third International Congress of Public Assistance and Private Benevolence will meet at Bordeaux, June 1 to 7, and the seventh of otology at Bordeaux August 1 to 4. Beside these the German Otologic Congress assembled at Wiesbaden May 29; the German Congress of Surgery will be held at Berlin, June 2, and of orthopedic surgery at the same time, while the gynecologic will be held at Würzburg; August 1 is the date for the third French Congress of Neurology. The eleventh International Congress of Hygiene and Demography is announced for September 2 to 8 at Brussels. September 16 to 19 the German Public Health Congress

will meet at Dresden, and September 20 to 26, the seventy-fifth Naturforscher Congress at Cassel.

Second International Congress of the Medical Press.—The constitution outlined at the Monaco conference was definitely accepted at this congress, which immediately preceded the International Medical Congress at Madrid. Dr. Cortezo of Madrid was elected president of the international association, and his journal, "El Siglo Medico," will, therefore, be the official organ of the international medical press until the next congress. He is an accomplished linguist and addressed the assembly in four languages, turning to the French, German, Italian and Spanish members as he spoke in their tongue. It was stated that there are at present 1,183 medical periodicals in the world, this country leading with 258, followed by France with 237, Germany with 163, Italy with 109, England with 77, Austria with 73, and Spain with 70. Russia has 47, Belgium 28, Holland 23, Argentina 11, and so on to Venezuela with one. Among the addresses made at the congress was one by Blondel, Paris, on the necessity for establishing an international central bureau for medical journals similar to that of the Associated Press for daily papers. Others spoke on the influence of the medical press on the decrease in the mortality from diphtheria. Rodriguez-Mendez discussed the subject of the education of the medical journalist. Noguera expatiated on the influence of the medical press on the progress of military science, and Pulido on the relations of the medical press to the public authorities. Interesting historical sketches of the medical press in various countries were read by delegates. The members of the congress assembled in a banquet after the congress adjourned.

International Anti-tuberculosis Conference at Paris.—The second and final sitting of the inner council of the international bureau for the prevention of tuberculosis, was held at Paris, May 3. The first conference met at Berlin and we all remember the heartiness with which the German government threw open its national halls for the conference and promoted it in every way. At Paris, on the other hand, the public authorities were too engrossed with the reception of the king of England and other matters to officially co-operate, so the entire arrangements devolved on private initiative. Letulle is secretary-general to the International Antituberculosis Congress to be held at Paris in October, 1904, and welcomed the members of the inner council at a reception at his house, where some unpublished poems of Professor Richet were recited or sung by professionals. The council accomplished its task, which was the gathering and comparing of information in regard to the campaign against tuberculosis in various countries, as a preliminary for the work of the approaching congress. The assembly concluded with a grand meeting thrown open to the public, the hall crowded to the doors, eliciting great enthusiasm. Casimir-Perier in his address at this meeting urged the co-operation of hygiene to arrest the progress of tuberculosis, with state aid, which deprives it of victims. These two are indispensable and inseparable. Both should act with gentleness and not with brute force. Their success, he added, is bound up with the solution of the most complex social problems and the campaign against tuberculosis should not be left to the medical profession alone, but requires the mobilization of all the forces of society, public and private, official and voluntary. A subcommittee was appointed to confer with local and national authorities in regard to measures to control the spitting nuisance. A resolution was adopted urging that the laws governing the spread of infectious diseases, especially tuberculosis, should be taught in schools and colleges.

LONDON LETTER.

Increase of Lunacy in Scotland.

From the report just issued it appears that the number of insane in the asylums of Scotland is 16,658. The statistics from the year 1858 onward show an increase. In that year the number was 5,824. The proportion of insane to the population has been steadily rising in the last ten years. In 1893 it was 204 per 100,000; now it is 250.

The Sleeping Sickness in Uganda.

Dr. C. Christy of the Liverpool School of Tropical Medicine and one of the commission dispatched to Uganda by the Foreign Office and Royal Society to investigate sleeping sickness, which is ravaging that country, has just returned to England. He made a very interesting journey among many little known tribes, returning via Fashoda and Khartoum. His special object was to prove or disprove the theory that sleeping sickness depends on filaria in the blood stream. After three months traveling he found a large district in which sleeping sickness raged and there was no sign of filariæ. It is now proved that sleeping sickness is in no way connected with filariæ. Simultaneously Dr. Castellani, bacteriologist of the commission, was working in his laboratory at Entelobe. He has proved that sleeping sickness is due to a previously unknown bacillus. Meanwhile the disease is making great ravages through South Kavirondo and along the shores of Victoria Nyanza. In villages through which Dr. Christy passed half or two-thirds of the people were suffering from sleeping sickness. A satisfactory feature with regard to Uganda is that the disease shows no tendency to spread far from the shores of Victoria Nyanza. It is not infectious in the ordinary sense of the word, and seems seldom to be conveyed from one person to another.

The King's Sanatorium.

As announced in THE JOURNAL, Sir Ernest Cassel, a wealthy merchant, placed at the disposal of the king about a year ago the sum of $1,000,000 for some purpose of public utility. The king decided to build a sanatorium for consumption. Prizes were offered for the best essays and plans for such an institution. Of 180 essays sent in Dr. A. Latham gained the first prize of $2,500. A sanatorium will be built according to his plans at what Sir William Broadbent describes as "a perfect natural site" in Sussex, near Midhurst. It is near a vast open space called Pound Common, which is public property, and, therefore, safe from the encroachments of the builder. For miles around are breezy stretches of gorse and heather. To the north of the site is a solid screen of the plateau itself, and on the east and west are acres of trees. The aspect of the sanatorium will not be absolutely south, for Dr. Latham has pointed out that it is not desirable in summer, when the sun would pour directly into the patient's rooms to make them uncomfortably hot. A slight inclination to the east or west will, therefore, be adopted. The extent of the property to be laid out is 151 acres. A fine garden will be laid out around the building. It is the ambition of the king that this should be the most perfect sanatorium for consumption in the world, embodying the experience of all the best models.

The Action on Bacteria of Electrical Discharges of High Potential and Rapid Frequency.

At a meeting of the Pathological Society Mr. Alexander G. R. Foulerton and Dr. A. M. Kellas read an interesting paper on this subject, in continuance of a communication on the same subject presented to the society last year, showing that by discharging the current close to the surface of a fluid containing bacteria, held in a test-tube, through the bottom of which a platinum wire had been sealed, suspended organisms could be destroyed. The current used was one of from 2.5 to 5 ampères, the voltage varied from 35 down to 24, and the experiments were carried out in common air.

The Plague.

In Cape Colony the following cases are reported for the week ending April 18: Quarantine station, Saldanha Bay, 2 Asiatics; Port Elizabeth 7, of whom 6 were natives and 1 European. Of the former 3 were found dead; at the plague hospital, Port Elizabeth, there are 17 cases under treatment. Plague-infected rats continue to be found in the town

Deaths from Violence in London.

Sixty-five deaths from violence occurred in the week ending April 25; 13 were suicide and 2 homicide, while the remaining 50 were attributed to accident or negligence.

Infectious Diseases in London.

In the London fever hospitals there are now 38 cases of smallpox, 1,698 of scarlet fever, 767 of diphtheria, 10 of typhus, and 60 of enteric fever. The admissions during the week as compared with the preceding three weeks are as follows: Smallpox, 9 cases against 3, 5 and 22; scarlet fever, 243, against 205, 158 and 188; diphtheria, 108, against 136, 99, and 96; enteric fever, 4, against 15, 8 and 5. During the four weeks ending April 25 the total death-rate for the metropolis was 16 per 1,000, being 3.3 below the mean rate in the corresponding periods of 10 years, 1893-1902. In the week ending April 25 there were 1,483 deaths, which included 80 from measles, 7 from scarlet fever, 22 from diphtheria, 33 from whooping cough, 17 from diarrhea, and not one from smallpox, typhus or enteric fever. The deaths from measles, which had been 73, 48 and 74 in the preceding three weeks, rose to 22, but were 11 below the average. The deaths from whooping cough, which had been 60, 47 and 33 in the preceding three weeks, rose to 38, but were 22 below the average. Twelve deaths were attributed to influenza against 17, 17 and 8 in the preceding three weeks.

Correspondence.

Illinois Nurses' Bill Vetoed.

CHICAGO, May 26, 1903.

To the Editor:—An editorial bearing the above caption appeared in THE JOURNAL, May 16. As the information therein is incorrect, and as an injustice has, doubtless unwittingly, been done Governor Richard Yates of Illinois, an executive whom the Illinois State Medical Society took occasion to highly compliment in formal resolutions adopted less than a month ago, I beg leave to state the facts in the case.

The editorial states that the bill was vetoed "simply on the ground that the examining board was to be appointed from names selected by the Illinois State Medical Society." Again, "the governor objects to this as taking from the executive his prerogative, and, we might add, his political perquisites."

The above must be a mistake, as the Illinois State Medical Society is not mentioned in the bill (Senate Bill No. 147).

The bill provided for the appointment of an examining committee by the State Board of Health, from names submitted by the Illinois State Association of Graduate Nurses; the appointment of one board by another. The board of health, not the governor, was clothed with the appointing power. Furthermore, appointment from these nominations was mandatory as the word "may" in the law means "shall." This practically gave the appointing power to the Nurses' Association, and at the same time held the governor responsible for the work of the board over which he had no control.

The governor says in his veto:

> I veto this bill because I do not believe there was due deliberation in its consideration and passage, and because it is not consistent with the general policy of the constitution.
>
> The theory of the constitution is, that the governor of the state, by and with the advice and consent of the state senate, shall nominate and appoint the state officers, and that the state officers shall perform state duties. . . . The performance of said duties by persons who are not state officers is not contemplated by the constitution, and was not contemplated by the framers thereof. . . . When the people shall deem it wise to commit the performance of the official duties of the state to persons who are not state officers, they may revise the policy of the present constitution by amending the same. . . . Until then, state duties should be performed by state officers and not by persons selected or nominated by societies. . . . The tendency to create boards consisting of persons whose selection is absolutely dictated by mere volunteer associations of persons who gather themselves together and constitute a society, is a tendency that should be checked.

The above is in accord with the decision of the Illinois Supreme Court in 1899 in the case of Charles W. Lesher vs. the People of the State of Illinois.

In the matter of appointments by the executive, the governor thus takes the ground that the constitution guarantees to the governor the right not only to appoint, but also to nominate and appoint. This being the case, it is his opinion that any statute which undertakes to nullify and abridge the constitution must be considered not only a violation of the constitution, the fundamental law of the state, but also wholly wrong in policy and principle.

That Governor Yates does not object to "the assistance of a qualified organization in the selection of persons for a purely professional function" the Illinois State Medical Society is in a position to testify. At the beginning of his administration the governor submitted to the judicial council of the society the names of many persons seeking medical appointments under the state government, and asked for recommendations. The judicial council by resolution has since expressed its appreciation of this act of Governor Yates. In the presidential address in 1901, the president of the state society stated that Governor Yates had kept his ante-election promises, and had given the society all possible consideration. As late as two months ago the legislative committee of the Illinois State Medical Society, in a circular letter sent to over 5,000 physicians, stated that Governor Yates had given the medical profession of Illinois more consideration than any governor of recent years and that he was in hearty sympathy with the high ideals entertained by the profession.

In conclusion permit me to quote from the remarks of Governor Yates in his veto of the Dental Examiners' Bill on May 15, 1903:

> The present executive is willing, and doubtless any other executive will be willing to listen to proper and reasonable recommendations, and it may be in the appointment of professional boards every executive will, in nine cases out of ten, select as members the persons recommended by the profession affected, inasmuch as the executive will doubtless assume that the profession affected is more interested and better informed than any other persons or citizens can possibly be.

GEO. W. WEBSTER,
President State Board of Health.

Maternal Impressions.

TELL CITY, IND.

To the Editor:—In THE JOURNAL of April 4, Dr. E. T. Shelly relegates the maternal-impression theory to the medical lumber-room, a very comfortable, if not a very satisfactory, way of disposing of all abstruse theories which are not clearly understood. The difficulty, however, we meet at the very threshold of such a happy disposal of the subject, makes it a herculean task, for are there not on every hand too many and too conspicuous cases to satisfactorily dispose of them with a wave of our wand? When Dr. Shelly declares there is no anatomic or physiologic connection between the mother and child he assumes a conclusion not thoroughly established, and which may be a figment of the fancy. If, however, there is no such connection, it does not follow that there is an absence of psychologic connection. Surely we witness the too often painful effect of environment during the gestatory period. The mother may not be wholly blamable if her offspring, gestated in an atmosphere reeking with all that is base and degrading, is born a pitiable object. True, the child born in a den of vice and infamy may, by inherent qualities or central impetus, burst the restraints of infamy and burn a star of light over a sea of corruption. Too often, alas, the reverse is true.

There is a subtle and possibly a reciprocal connection between the mother and the fetus during the entire embryonic life. Nor is she blamable if, during gestation, she be so rudely shaken from the poise of harmony by some sudden shock that the brunt is borne by the offspring ever after. I have witnessed too many well authenticated cases to doubt it for a moment. The mother should have the most harmonious, beautiful and elevating surroundings during gestation. The restraints of toil and care should irk her not. She should not be stewed with worry or spitted with starvation. She should be placed on a well-guarded pedestal, canopied with comfort and gently basted with sweet-scented bouquets. Her make-up is intricate. She is a problem, to be solved by no simple rule of mathematics. On her environment hangs the future welfare of posterity. Her mental impressions may wonderfully impress the embryo, may mark it, ay, may destroy its harmony, its usefulness, its life.

F. ANSON EVANS.

Preserved in Wax.

MUSKEGON, MICH., May 22, 1903.

To the Editor:—The following case illustrates the remarkable preservative properties of cerumen: J. W. S., age 63; white; Civil War veteran. A beetle of the species *Tenebrio molitor* entered right ear one evening in August, 1861, while patient was in Camp Good Hope, near Navy Yards, Washington, D. C. Patient immediately applied to regimental surgeon, who, failing in efforts to remove insect, applied olive oil to ear and instructed patient to return to tent and lie on right side, and suggested that the bug would probably be found on blanket in the morning. Pain in ear kept patient awake until nearly morning and when awakened ear felt much better, and patient forgot to look on blanket for insect, which he supposed had escaped from the ear. Since insect entered ear, patient has been able to hear but faintly with right ear.

Patient applied to me for relief from deafness May 8, 1903. On examination, I found external canal filled with cerumen. Applied solvent and instructed patient to return in twenty-four hours. After syringing the ear the following day, I found the beetle, which was ⅝ inch in length and slightly greater in width than the normal caliber of the canal and with ear tenaculum, removed it, not without some difficulty. The head of insect lay within one line of tympanum.

After 41 years and 8 months the beetle was in perfect state of preservation; legs, feelers and all appendages intact. One week after removal the external canal appeared normal and the hearing is nearly normal. F. B. MARSHALL, M.D.

Plaster-of-Paris Bandages.

TOLEDO, OHIO, May 8, 1903.

To the Editor:—It is not generally known that the late Dr. Hezekiah P. Mead of Morrisville, Madison County, N. Y., who died last year, was the first to discover the practicability of applying the plaster-of-paris bandage to the treatment of fractures and other displacements in which it is so universally used by the profession throughout the land. This was early in the year 1860.

With an utter lack of any thirst for notoriety, and content with his mere contribution to the profession and to the good of humanity, he gracefully allowed the name of another skilled and more prominent surgeon of the time to be credited with this valuable discovery.

Through intimate association and personal knowledge of the facts at the period named, I have felt it incumbent on me to call attention to the above fact, in justice to a man of consummate skill and the highest citizenship. In a personal reminiscence which I caused to be published in the *Toledo Blade* in 1901, I gave in some detail the circumstances which first led to the adoption of this new use of a common and well-known article, and which I believe I am able to substantiate if desired.

N. B. BACON.

Failure of the Eddyites in Arkansas.

WINFIELD, ARK., May 12, 1903.

To the Editor:—I see in THE JOURNAL, May 9, that the Eddyites failed to receive a charter in Philadelphia. At the past session of the Arkansas legislature these people got a bill through the senate to exempt them from Section 13 of the recent medical act of the state, but in the house we managed to put an amendment on the bill "providing that they receive no pay for their practice." The senate never concurred in the amendment, so they are out here. CHEVES BEVILL.

Triplets.

HOPE, ARK., May 19, 1903.

To the Editor:—May 14 I delivered Mrs. M. of triplets, two girls, one boy. The weights of the two girls were 5½ and 6 pounds and of the boy 6½ pounds. They are all hale and hearty and at this time are doing nicely. Mrs. M., who is the mother of four other children, is also doing nicely. She had the easiest time of any of her confinements.

J. H. WEAVER.

Queries and Minor Notes.

ANONYMOUS COMMUNICATIONS will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish his name will be faithfully observed.

DO NEGROES RECOVER FROM PHTHISIS?

ALBUQUERQUE, N. M., May 13, 1903.

To the Editor:—I desire to learn through the columns of THE JOURNAL, from one or more physicians residing in southern states and who have had any considerable number of cases of pulmonary tuberculosis among the African race, if they know a recovery among negroes suffering from this disease. I desire the information for statistical use and will consider it a great kindness from anyone who can give me such aid, either by personal communication or through THE JOURNAL. FRANCIS CROSSON.

SALOL COATED IPECAC PILLS.

NEWMAN GROVE, NEB., May 15, 1903.

To the Editor:—Will you please inform me where I can get ipecac pills that are coated with salol? D. B. MCMAHON, M.D.

ANS.—We are unable to learn of any such ready-made pills. Any of the large pharmaceutical houses, however, will prepare these for you, or perhaps a druggist in your own city will be able to do the same satisfactorily.

PINK REACTION IN URINE.

PHILADELPHIA, May 18, 1903.

To the Editor:—With reference to the pink coloration of urine noted by Dr. Minter in THE JOURNAL, May 16, p. 1386, on addition of nitric acid: I have observed such a reaction in a case in which also tubercle bacilli were found in the urine, and the same observation has been made, I believe, by Dr. Joseph Walsh of this city.

AUGUSTUS A. ESHNER.

PHOSPHORUS ELIMINATION IN TABES.

MATAGORDA, TEXAS, May 6, 1903.

To the Editor:—Has it been observed that there is an increased ellimination of phosphorus through the urine in tabes dorsalis? And, if so, has the administration of phosphoric acid been recommended for treatment of this disease? S. A. F.

Book Notices.

THE PREVENTION OF DISEASE. Translated from the German with an Introduction by H. Timbrell Bulstrode, M.A., M.D., D.P.H. In Two Volumes. Cloth. Pp. 1063. Net Price, $3.75 per Volume. New York: Funk & Wagnalls Company. 1903.

This is a translation of a well-known German work, a composite production by numerous teachers. The names of the authors give, in themselves, a fairly good idea of the merits of the work, including as they do some of the most eminent specialists and internists of the German Empire. There are, of course, in a work like this some divergences of opinion and in one particular it seems peculiar that a book coming from the publishing house of Funk & Wagnalls should contain arguments advising the moderate use of alcohol and even occasionally the taking of a little more than usual on festive occasions, as suggested in Dr. Einhorn's article on the "Prevention of Diseases of the Digestive Organs." In another article, that of Fuchs on the "Prevention of Mental Disease," total abstinence seems to be advocated, at least on the part of the physician. The two volumes as a whole, however, are a valuable addition to the hygienic medical literature in our language.

THERAPEUTICS OF INFANCY AND CHILDHOOD. By A. Jacobi, M.D., LL.D. Third Edition. Cloth. Pp. 559. Price, $3.50. Philadelphia and London: J. B. Lippincott Co. 1903.

As the author says in his introduction, while many additions have been made to the book, there have been no actual changes in its general contour. It is the revision of a well-known work which has already received its share of favor with the profession. The author's views in regard to the at present much discussed question of infant feeding are stated by him in the beginning, that there will be no unanimity on the question as long as infants insist on being individuals, having their own special constitutional idiosyncrasies. The author acknowledges his indebtedness to the contributors to the Festschrift published in his honor between two and three years ago, than which he says he knows of no collection of an equal number of monographs on scientific and practical subjects of equal value connected with pediatrics.

BOOK ON THE PHYSICIAN HIMSELF and Things that Concern His Reputation and Success, by D. W. Cathell, M.D. The Twentieth Century Edition, Being the Eleventh Edition Revised and Enlarged by the Author and His Son, William T. Cathell, A.M., M.D. Cloth. Pp. 411. Price, $2.50 net. Philadelphia: F. A. Davis Company. 1902.

The appearance of the eleventh edition of a work ought to be sufficient evidence of its popularity. This book has been before the medical public for many years. There is no other exactly like it in its combination of worldly wisdom and ethical advice. Numerous quotations interpolated in the book remind one of the Latin quotations in old Burton's "Anatomy of Melancholia," but they are so funnily chopped up and sawed off in some cases that the impression is somewhat different. We do not consider them a valuable addition.

PHYSICAL CHEMISTRY for Physicians and Biologists. By Dr. Ernest Cohen, Professor of General and Inorganic Chemistry in the University of Urecht. Authorized Translation from the German. By Martin H. Fischer, M.D., Instructor in Physiology in the University of California. Cloth. Pp. 343. New York: Henry Holt & Co. 1903.

Nowadays when the ions, electrolytes, etc., are beginning to play such an important part in the discussions of therapeutics and physiology, a work like this translation of Prof. Cohen's should be welcomed. As a preliminary note to the American

translation Prof. Jacques Loeb says it not only serves as an introduction to physical chemistry, but also teaches the physician and biologist how to apply this science to medical and biologic problems. We admit that in some respects the book will itself require some introductory study by a large majority of practitioners, but this is not an avoidable defect. The translator has evidently done his work well and has made his matter as clear as possible considering the nature of the text.

Marriages.

RACHEL ROBBINS, M.D., to WILLIAM E. STIEREN, M.D., both of Pittsburg, Pa., April 30.

JOHN H. JENNESS, M.D., Rising Sun, Md., to Miss M. Bessie Marshall, at Baltimore, May 6.

MARK MONROE EVANS, M.D., Le Grand, Iowa, to Miss Mary Carolyn Dodd of Montour, Iowa, April 29.

E. A. CANTONWINE, M.D., Van Cleve, Iowa, to Miss Daisy M. White of Rolfe, Iowa, at Marshalltown, Iowa, May 6.

Deaths.

Thomas G. Morton, M.D., who for years has been one of the most prominent surgeons of Philadelphia, died at Cape May of cholera morbus May 20. He was born Aug. 8, 1835, in Philadelphia, his father being Dr. S. G. Morton, a distinguished physician and scientist. Graduating from the Medical College of the University of Pennsylvania in 1856, Dr. Morton served as resident physician in the Pennsylvania Hospital, where he later succeeded Dr. Joseph Pancoast as attending surgeon. He was one of the founders of the Polyclinic and Orthopedic hospitals. During the Civil War he organized a military hospital, and became surgeon to other army hospitals. His many services to the state included chairmanship of the committee of the commission for the erection of the State Hospital for the Insane for the southern district of Pennsylvania. He has served as vice-president of the Society to Protect Children from Cruelty. He was at one time a commissioner of the State Public Charities and again chairman of the State Committee on Lunacy. The clinical lectures he held at the Pennsylvania Hospital have been attended by thousands of students. Dr. Morton was a member of various foreign and American professional societies, was a frequent contributor to current medical literature, and has written standard works on medical subjects, including "The Transfusion of Blood and Its Practical Application." Since 1890 he has been an active member of the Board of Public Education. Deceased is survived by his wife, three daughters and two sons, one of the latter being Dr. Thomas S. K. Morton.

Adelbert H. Tagert, M.D. University of Vermont, 1866, died at his home in Chicago, May 27, of pneumonia, after an illness of a few days, aged 57. Dr. Tagert, after practicing in Buffalo for two years, came to Chicago thirty years ago, where he has since resided. He was surgeon of the C. M. and St. P. Railway for seventeen years, and at the time of his death was president of the Kedzie Hospital. He was a member of the Chicago and Illinois State Medical societies and of the American Medical Association.

Florence W. Hunt, M.D. Northwestern University Woman's Medical School, 1894, formerly a member of the Illinois State Board of Health, neurologist to St. Joseph's Hospital, and a member of the Chicago and Illinois State Medical societies and the Americal Medical Association, died in Milwaukee May 27. This news is received as we go to press, and a further notice will be given next week.

H. Grey Latham, M.D. University of Virginia, Charlottesville, 1851, died from heart disease of long standing at his home in Lynchburg, Va., May 5, aged 72. He was commander of the famous Latham battery during the Civil War, and was for several terms president of the Virginia Medical Board.

William R. Hayden, M.D. Eclectic College of the City of New York, 1867, died at his home in Bedford Springs, Mass., April 29, aged 83. He was president of the New York Pharmaceutical Company for 45 years.

Charles Clayton Abernathy, M.D. University of Pennsylvania, Philadelphia, 1851, of Pulaski, Tenn., who achieved distinction as a surgeon in the Confederate service, was found dead in bed, April 27, aged 75.

Edward De La Granja, M.D. Central University, Madrid, Spain, 1855, a member of the Royal Society of Medicine; brigade surgeon in the Crimean War, and for many years a resident of Boston, died at his home in that city, May 10, aged 73.

George W. Hunton, M.D. Jefferson Medical College, Philadelphia, 1847, died at his home in Virginia, from asthma, aged 77. During the Civil War he was surgeon of the Eighth Virginia Infantry, C.S.A.

Alfred E. Moore, M.D. Medical Department Iowa State University, Iowa City, 1887, died at his home in Wayland, Iowa, from pneumonia, April 21, after an illness of two weeks, aged 40.

Augustus S. Long, M.D. Long Island College Hospital, Brooklyn, 1865, died at his home in St. Joseph, Mo., from inflammatory rheumatism, April 30, after an illness of two weeks, aged 62.

John C. Brown, M.D. Atlanta Medical College, 1875, of Whitesburg, Ga., died at the home of his daughter in Carrollton, Ga., April 27, from paralysis, after an illness of three weeks.

Walter Bacon Morrison, M.D. Long Island College Hospital, Brooklyn, assistant surgeon in the Civil War, died at his home in Muskegon, Mich., May 2, after a lingering illness, aged 65.

James Aloysius Roache, M.D. Long Island College Hospital, Brooklyn, 1891, died at his home in Brooklyn, from cirrhosis of the liver, May 3, after an illness of four weeks, aged 44.

Alfred B. McChesney, M.D. University of Michigan, Ann Arbor, 1853, a surgeon in the Army during the Civil War, died at his home in Chicago, from pneumonia, May 7, aged 75.

Fieldon R. Waggoner, M.D. Missouri Medical College, St. Louis, 1878, died at his residence in Sacramento, Cal., April 28, from paralysis, after an illness of four days, aged 67.

Samuel P. Buck, M.D. Medical School of Maine, Bowdoin College, Brunswick, 1853, died at his home in West Woolwich, Maine, April 22, after a brief illness, aged 77.

Harold Hamilton Haas, M.D., passed assistant surgeon, U. S. Navy, died from the effects of a self-inflicted gunshot wound of the head, at Staunton, Va., aged 30.

Jesse J. Morgan, M.D. College of Physicians and Surgeons, Baltimore, 1883, died at his home in Dacusville, S. C., April 27, after an illness of one year, aged 42.

James W. Taylor, M.D. Jefferson Medical College, Philadelphia, 1854, died suddenly at his home in Leesburg, Va., from heart disease, April 28, aged 70.

James M. Clopton, M.D. New York University, 1867, died suddenly from heart disease at his home in Mercury, near Huntsville, Ala., April 24.

John H. Salyer, M.D. Tulane University, New Orleans, 1899, of Ledbetter, Texas, died at Navasota, Texas, after a long illness, April 28, aged 29.

Bernardus Schutte, M.D. University of Leyden, Holland, 1875, died at his home in Grand Rapids, Mich., April 30, from aortic aneurism, aged 56.

Griffin Reno, M.D. Albany Medical College, 1862, of Bradford, Pa., died at Venus, Venango County, Pa., April 30, from heart disease, aged 60.

Sylvanus L. Roberds, M.D. Kansas City Medical College, 1876, of Myrtle Point, Ore., died recently at a hospital in Portland, Ore., aged 56.

Lisle C. Waters, M.D. Rush Medical College, Chicago, 1880, died at his home in Chicago, April 30, from anemia of the aorta, aged 54.

William Deegan, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1884, died at his home in Chicago, May 6.

James C. Rhodes, M.D. Geneva (N. Y.) Medical College, 1847, died May 1, at his home in Stillwater, Minn., aged 79.

Joseph B. Le Matty, M.D. Missouri Medical College, St. Louis, 1877, died at Bardolph, April 5, aged 56.

Henry Eversman, M.D. Medical College of Ohio, Cincinnati, 1861, died at Effingham, Ill., April 7, aged 66.

Elizabeth McKitterick, M.D. Woman's Medical College, Chicago, 1880, died recently at Guthrie, Okla.

Thomas H. Mangum, M.D., retired, of Trenton, Texas, died at his home in that place, April 29, aged 69.

William A. Noel, M.D. University of Louisville, 1843, of Pine Bluff, Ark., died recently.

R. B. Cotton, M.D. Toronto University, 1886, died in Regina, N. W. T., May 6, aged 48.

Deaths Abroad.

H. Gutschow, M.D., chief of the medical department of the German navy, died at Berlin, April 23.——**Felix Beetz, M.D.,** a former collaborator on the *Deutsche Med. Wochft.* and the *Reichs-Medizinal-Kalender,* died at Berlin, April 11, aged 54. ——**G. Nepveu, M.D.,** professor of pathologic anatomy at Marseilles, author of numerous works on surgery and bacteriology. ——**J. La Bonnardiere, M.D.,** professor of therapeutics at the French medical college of Beyrouth.——**M. Rio de la Loza, M.D.,** president of the section of medical physics and chemistry of the Mexican Academy of Medicine, died at Mexico, April 9.

Dr. F. Colzi, professor of surgery at Florence, one of the leading surgeons of Italy, died at Florence, April 10, aged 47, from the results of an accidental gunshot wound which shattered his forearm. Tetanus developed and proved rapidly fatal, notwithstanding amputation of the arm.

Dr. Anton Bumm, of Munich, professor of psychiatry, died at his home, April 13, from gallstone disease, aged 54.

Dr. E. Oehl, professor of physiology at Pavia, died April 5, aged 76.

Dr. G. von Veit, professor of gynecology at Bonn, 1863 to 1893, died at Gevelsdorf, April 20, aged 79.

State Boards of Registration.

The next Illinois examination will be in the Seventh Regiment Armory, Chicago, June 1 to 3. This is a special examination for physicians only. The next regular examination will be at the same place, July 22.

Texas.—The next meeting for the examination of applicants who desire to practice surgery, medicine and midwifery in Texas will be held in Austin, June 15. For blanks, rules and any other information, address Dr. M. M. Smith, the secretary, Austin, Texas.

New Hampshire.—The next examination will be held in Concord, June 23-24. By an amendment to the medical registration law, enacted by the legislature at the session of 1903, hotel physicians, employed by the landlord of a summer hotel in the care of his guests or employes, will hereafter be obliged to secure a license to practice, in accordance with Chapter 63 of the Session Laws of 1897. This license can be obtained only by examination.

Reciprocity.—There was held in Chicago, April 23, a meeting of the representatives of the medical examining boards of Indiana, Ohio, Iowa, Kansas, Michigan and Wisconsin. An organization was formed entitled the American Confederation of Reciprocating, Examining and Licensing Medical Boards of the United States of America, having for its object the establishing of reciprocal relations between the medical examining and licensing boards of the United States. The basis for reciprocal medical registration is stated as follows:

For the purpose of establishing medical reciprocity among the states composing it, the American Confederation of Reciprocating Examining and Licensing Medical Boards does hereby agree to the following propositions as a basis of reciprocal medical registration:

(*a*) That a prerequisite to reciprocal registration, the applicant therefor shall file in the office of the board of the state of which he is a licentiate such evidence as will enable the said board to certify that he is of good moral and professional character. Such certificate shall be filed with his application for reciprocal registration in another state.

QUALIFICATION 1.

(*b*) That a certificate of registration showing that an examination has been made by the proper board of any state, on which an average grade of not less than 75 per cent. was awarded, the holder thereof having been at the time of said examination the legal possessor of a diploma from a medical college in good standing in the state where reciprocal registration is sought, may be accepted, in lieu of examination, as evidence of qualification. Provided, that in case the scope of the said examination was less than that prescribed by the state in which registration is sought, the applicant may be required to submit to a supplemental examination by the board thereof in such subjects as have not been covered.

QUALIFICATION 2.

(*c*) That a certificate of registration, or license issued by the proper board of any state, may be accepted as evidence of qualification for reciprocal registration in any other state. Provided, that the holder thereof was, at the time of such registration, the legal possessor of a diploma issued by a medical college in good standing in the state in which reciprocal registration is sought, and that the date thereof was prior to the legal requirement of the examination test in such state.

Texas Report.—Dr. M. M. Smith, Austin, secretary of the Board of Medical Examiners for the State of Texas, reports the examination held at Austin, April 20 to 23, 1903, as follows: Subjects, 13; questions, 135; percentage required, 75; written examination; examined, 97; passed, 87; failed, 10, including one applicant for license as a midwife.

PASSED.

Candidate.	Sch. of Pract.	College.	Year Grad.	Per Cent.
E. Y. A.	R.	Univs. of Louisville and of Nashville	*	84
C. J.	R.	University of Louisville	1892	83
G. L. P.	R.	University of Louisville	1897	82
A. L. T.	R.	University of Louisville	1903	87
J. R. B.	R.	University of Ft. Worth	*	83
W. H. D.	R.	University of Ft. Worth	*	83
S. B.	R.	University of Vienna	1887	85
R. C. C.	R.	University of Texas	*	94
E. S. E.	R.	University of Texas	1903	90
B. F.	R.	University of Texas	1903	90
L. L. G.	R.	University of Texas	1903	90
G. H. G.	R.	University of Texas	1903	93
L. H. K.	R.	University of Texas	1903	90
A. T. K.	R.	University of Texas	1903	87
L. L. L.	R.	University of Texas	1903	85
J. F. M.	R.	University of Texas	*	89
E. G. M.	R.	University of Texas	1903	89
J. A. M.	R.	University of Texas	1903	93
J. W. R.	R.	University of Texas	1903	91
M. R. S.	R.	University of Texas	1902	93
P. E. S.	R.	University of Texas	1903	89
F. S.	R.	University of Texas	1903	93
J. T. W.	R.	University of Texas	1903	90
J. A. W.	R.	University of Texas	1903	91
Z. T. S.	R.	University of Texas	1903	94
C. A. S.	R.	University of Texas	*	89
J. L. T.	R.	University of Texas	1903	87
F. H. H.	R.	University of Texas and Tulane	*	81
T. D. F.	R.	University of Dallas	*	78
N. E. F.	R.	University of Dallas	*	96
J. J. S.	R.	University of Dallas	*	87
J. W.	R.	University of Dallas	*	92
C. G. K.	R.	University of Dallas	1902	90
P. S. R.	R.	Univ. of Dallas and Barnes Med. Coll.	*	79
L. A. C.	R.	University of Nashville	*	88
J. D. M.	R.	University of Nashville	*	83
J. C.	R.	University of Nashville	*	85
J. S. C.	R.	University of Georgia	1885	78
T. H. C.	R.	University of Tennessee	1903	87
C. B. H.	R.	University of Tennessee	1897	80
J. R. M.	R.	University of Tennessee	1903	82
B. U. S.	R.	University of Tennessee	*	84
F. D. S.	R.	University of Tennessee	1903	83
M. I. F.	R.	University of Toronto	1892	86
W. B. H.	R.	University of Alabama	1897	81
E. M. H.	R.	University of Arkansas	*	80
J. D. L.	R.	University of Arkansas	1894	84
I. V.	R.	University of Prague	1874	82
A. H. W.	R.	University of Maryland	1902	91
J. M. Y.	R.	University of Virginia	1902	85
C. B.	R.	Tulane University	*	80
T. H. B.	R.	Tulane University	*	86
C. W. L.	R.	Tulane University	1899	87
G. H. B.	R.	Barnes Medical College	*	84
A. G. L.	R.	Barnes Medical College	1901	82
M.	R.	Barnes Medical College	*	83
W. M. M.	R.	Barnes Medical College	1896	75
J. C. B.	R.	Vanderbilt University	*	87
T. C. D.	R.	Vanderbilt University	1903	81
A. T. O.	R.	Vanderbilt University	1901	92
A. O. C.	R.	Vanderbilt University	1900	92
P. C. S.	R.	Vanderbilt University	1903	88
C. P. B.	R.	Rush Medical College	1902	92
W. L. B.	R.	Rush Medical College	1896	88
E. J. M.	R.	Rush Medical College	1886	88
R. F. S.	R.	Rush Medical College	1899	89
A. D. P.	R.	Rush Medical College	1899	90
W. T. B.	R.	Dallas Medical College	*	86
F. C.	R.	Jefferson Medical College	1879	90
J. M. P.	R.	Jefferson Medical College	1902	91
J. G.	R.	Illinois Medical College	1902	83
J. P. G.	R.	Columbia University	1901	88
T. M. G.	R.	Atlanta Medical College	1888	75
A. C. J.	R.	Atlanta College of Phys. and Surgs.	1902	83
J. W. G.	R.	Trinity University (Dallas, Tex.)	1902	77
C. H. H.	R.	Louisville Medical College	1903	86
G. K. T.	R.	Louisville Medical College	1890	84
W. L. H.	R.	Louisville Medical College	*	84
J. A. H.	R.	Missouri Medical College	1890	91
D. C. H.	R.	St. Louis College Phys. and Surgs.	*	90
H. L. J.	R.	Grant University	1903	75
W. P. K.	R.	Meharry Medical College	1903	87
J. L. L.	R.	Central College of Phys. and Surgs.	1902	88
M. M. R.	R.	Marion Sims-Beaumont Med. Coll.	*	87
J. E. S.	R.	Chattanooga Medical College	1900	76
J. V.	R.	Medical College of Mexico	1901	79
J. L. W.	R.	Memphis Hospital Medical College	*	80

FAILED.

1	R.	Barnes Med. College	1899	67
2	R.	University of Dallas	*	69
5	R.	University of Dallas	*	71
4	R.	Univ. Dallas and St. Louis P. and S.	*	39
8	R.	University of Louisville	1894	67
3	R.	Chattanooga M. C. and Univ. Dallas.	*	72
6	R.	Vanderbilt University	1885	73
7	R.	Knoxville Medical College	*	68
9	R.	Memphis Hospital Medical College	*	67

* Undergraduates.

Examination Board in Kentucky.—At the annual meeting of the Kentucky State Board of Health it was recommended that the board refuse recognition to the graduates of colleges where it could be proven that the college had cut fees from the advertised rates, or had violated other entrance requirements. A suggestion was made that the board amend its requirements so as to make it an examining board for the examinations of applicants to practice in the state, or that the legislature be petitioned to create an examining board, to be composed of men in no way connected with medical colleges. To meet this emergency it was stated that from this date no member of the present board will have any connection with a medical college.

Idaho Report.—Dr. R. L. Nourse, Hailey, secretary of the Idaho State Board of Medical Examiners, reports the examination held at Boise, April 7, 1903, as follows: Number of subjects examined in, 12; total questions, 120; percentage required to pass, 75; written examination; total number examined, 22; number passed, 13; failed, 9.

Candi-date.	Sch. of Pract.	PASSED. College.	Year Grad.	Per Cent.
1	R.	St. Louis Medical College	1872	77.8
2	R.	Toronto Medical College	1902	92.2
3	R.	Kansas City Medical College	1900	75.1
10	R.	Kansas City Medical College	1899	77.3
4	R.	Woman's Med. College, Kansas City	1899	88.8
5	R.	University of Iowa	1880	91.5
16	R.	University of Michigan	1900	91.7
17	R.	University of Minnesota	1895	77.7
6	H.	Chicago Homeopathic Med. College	1894	77.5
13	R.	Louisville Medical College	1903	84.6
14	R.	N. W. Woman's Med. College, Chicago	1901	84.7
15	R.	College P. and S., Chicago	1902	81.1
21	R.	Hospital Coll. of Medicine, Louisville	1902	81.1
		FAILED.		
7	R.	Kentucky School of Medicine	1892	59.5
22	R.	Kentucky School of Med., Louisville	1879	15.9
8	E.	American Med. College, St. Louis	1890	56
11	R.	Barnes Medical College, St. Louis	1902	62.9
12	R.	Harvey Medical College, Chicago	1901	70.8
9	R.	Central Med. College, St. Joseph	1897	74.5
18	R.	Louisville Medical College	1903	61
19	R.	University of Iowa	1887	67.6
20	R.	University Med. College, Kansas City	1897	69.4

Association News.

New Orleans Arrangement Committee Finds a Balance.

The Committee on Arrangements met at New Orleans, May 14, and found that after paying all bills there would be a balance on hand of $1,700. This saving resulted from there being less expense than had been planned for some receptions, and from an increase in the receipts from the exhibits over that which had been counted on. Of this balance, $750 was unanimously voted to the Confederate Reunion Committee, with which to entertain the veteran surgeons of the Army and Navy at their convention. In view of the courtesies extended by the Young Men's Christian Association, the Touro Synagogue and the Carondelet M. E. Church, and in appreciation of the use of their meeting halls, $25 was voted to each. The remainder of the surplus it was voted to contribute to the fund being raised for the establishment of a branch of the Pasteur Institute in New Orleans. The Committee passed a vote of thanks to the newspapers, telephone and telegraph companies, the clubs who extended courtesies, prominent citizens who assisted in various ways and to numerous other persons and bodies who assisted in making the New Orleans Session such a brilliant and successful convention. The Arrangement Committee then adjourned sine die.

Medical Organization.

Manhattan (Kan.) Medical Society.

Nine physicians of Manhattan met, April 20, and organized a medical society with the following temporary officers: Chairman, Dr. Charles F. Little; secretary, Dr. James D. Colt, Jr.

Carroll County (Ga.) Medical Society.

The physicians of Carroll County met at Carrollton for organization and elected Dr. Buna C. Powell, Villa Rica, president; Dr. W. Lee Fitts, Carrollton, vice-president; and Dr. J. F. Cole, Carrollton, secretary and treasurer.

Cedar County (Iowa) Medical Society.

This society perfected its organization at Tipton, April 29, by adopting a constitution and by-laws and electing the following officers: Dr. L. W. Baker, Stanwood, president; Dr. H. R. Chapman, Bennett, vice-president; Dr. Roscoe A. Nash, Tipton, secretary, and Dr. Louis J. Leech, West Branch, treasurer.

Lyon County (Kan.) Medical Society.

At the annual meeting held in Emporia, May 5, the society voted to affiliate with the district and state societies along the lines suggested by the American Medical Association. Dr. John M. Parrington was elected president; Dr. Frank A. Eckdall, vice-president, and Dr. John M. Poindexter, secretary and treasurer, all of Emporia.

Crawford County (Ohio) Medical Society.

Representative medical men of Galion, New Washington, Crestline and Bucyrus, met at the latter city, May 1, and after an address by Dr. Theodore W. Rankin, Columbus, councilor for the sixth district, perfected organization by adopting a constitution and by-laws in conformity with that suggested by the American Medical Association, and electing the following officers: Dr. Burton R. Miller, New Washington, president; Dr. Thomas L. Brown, Galion, vice-president; Dr. Robert S. Reid, Bucyrus, secretary; Dr. Charles E. Trimble, Crestline, treasurer, and Dr. Arthur M. Duncan, Bucyrus, delegate to the state society.

Societies.

COMING MEETINGS.

Indian Territory Medical Association, South McAlester, June 2-3.
Medical Society of the State of North Carolina, Hot Springs, June 2.
Ohio State Medical Society, Dayton, June 3-5.
Rhode Island Medical Society, Providence, June 4.
Wisconsin State Medical Society, Milwaukee, June 3-5.
Maine Medical Association, Portland, June 3-5.
Indiana State Medical Society, Richmond, June 4-5.
Medical Society of Delaware, Dover, June 9.
Massachusetts Medical Society, Boston, June 9-10.
Michigan State Medical Society, Detroit, June 11-12.
Minnesota State Medical Society, St. Paul, June 17.
Medical Association of Montana, Helena, June 17-18.
Medical Society of New Jersey, Asbury Park, June 23-25.

The University of Toronto alumni, resident in California, held their first meeting March 27. The organization starts out with a membership of 22. There are nearly 60 graduates and undergraduates in California.

Medical Association of the District of Columbia.—The annual meeting was held in Washington, April 7, at which the following officers were elected: President, Dr. Albert F. A. King; vice-presidents, Drs. Raymond T. Holden, and Louis Mackall, Jr.; secretary, Dr. Daniel W. Prentiss, and treasurer, Dr. Frank Leech, all of Washington.

Litchfield County (Conn.) Medical Association.—This association, the oldest of its kind in the United States, held its one hundred and thirty-ninth annual meeting at Winsted, April 29. Dr. Jerome S. Bissell, Torrington, president; Dr. George H. Knight, Lakeville, vice-president; Dr. Albert E. Cobbs, Falls Village, secretary and treasurer, and Dr. William S. Hulbert, Winsted, reporter.

Sanitary Officers of Baltimore County.—At the meeting at Towson, May 6, the following officers were elected: Dr. James F. H. Gorsuch, Fork, president; and Dr. T. Ross Payne, Corbett, secretary. A resolution was adopted exonerating Dr. John C. Schofield, Baltimore, from any blame for the escape of smallpox suspects from the Homburgville camp, which had been criticised so severely by the health commissioner of Baltimore.

Western Alumni Association of the University and Bellevue Hospital Medical College.—The third annual meeting and banquet was held in Chicago, April 30. Dr. George N. Kreider, Springfield, Ill., was the toastmaster. The following officers were elected: President, Dr. David W. Graham, Chicago; vice-presidents, Drs. Charles C. Hunt, Dixon, Ill., Joseph M. Patton, Chicago, and James A. Duncan, Toledo, Ohio; secretary, Dr. Willis O. Nance, Chicago, and treasurer, Dr. Calvin M. Fitch, Chicago.

Arkansas Medical Society.—The twenty-eighth annual session was held in Jonesboro, April 30, May 1 and 2. The following officers were elected: Dr. Leonidas Kirby, Harrison, president; Drs. Joseph L. Burns, Jonesboro, Joseph C. Cleveland, Bald Knob, and James C. Wallis, Arkadelphia, vice-presidents; Dr. Joseph P. Runyan, Little Rock, secretary, and Dr. Richard C. Thompson, Pine Bluff, treasurer. The following board of councilors was elected: Dr. Edwin R. Dibrell, Little Rock, president; Dr. Montague Fink, Helena, secretary, and Drs. Morgan Smith, Eldorado, Gus A. Warren, Imboden, Charles T. Drennen, Hot Springs, and John B. Bolton, Eureka Springs. The society will meet next year in Texarkana.

Association of Military Surgeons of the United States.—At the twelfth annual meeting held in Boston, a report of which will shortly appear in THE JOURNAL, Captain John C. Wise, medical director U. S. Navy, was elected president; General Walter Wyman, surgeon-general U. S. Public Health and Marine-Hospital Service, first vice-president; Major Albert H. Briggs, Buffalo, surgeon Sixty-fifth Infantry, N. G., N. Y., second vice-president; Brigadier General Robert M. O'Reilly, surgeon-general U. S. Army, third vice-president; Major Herbert A. Arnold, Ardmore, Pa., surgeon, N. G., Pa., was re-elected treasurer, and Major James E. Pilcher, Carlisle, Pa., surgeon U. S. Army (retired), secretary. St. Louis was selected as the meeting place for 1904, subject to the approval of the executive committee.

CONGRESS OF AMERICAN PHYSICIANS AND SURGEONS.

Sixth Triennial Session, held in Washington, May 12 to 14, 1903.

The President, Dr. W. W. Keen, in the Chair.

The subject of the Tuesday session was "The Pancreas and Pancreatic Diseases."

DR. E. L. OPIE, Baltimore, read a paper on the anatomy and histology.

Physiology of the Pancreas.

PROF. R. H. CHITTENDEN, New Haven, read a paper on the "Physiology and Physiologic Chemistry," in which he referred to the many abnormalities which occur when the pancreas is extirpated, bodies more or less toxic being formed. He believed that the cells of the pancreas have several more peculiarities of composition than one realizes, and referred to the synthetic action of the pancreatic ferments on glucose. He claimed that the pancreatic juice was considerably modified by food, and that there were many deviations from the ordinary metabolic processes of the body after removal of the pancreas.

Pathology of the Pancreas.

DR. SIMON FLEXNER, Philadelphia, read a paper on the "Etiology and Pathologic Anatomy," in which he commented on the relationship existing between inflammations and degenerations of the pancreas and diabetes. He briefly detailed the experiments that have been made in the attempt to artificially produce hemorrhagic pancreatitis, and mentioned two forms of suppurative pancreatitis, (1) where the abscesses are small and localized, and (2) where they are large and diffuse. He concluded his paper by some references to the subject of fat necrosis.

Diagnosis in Pancreas Affections.

DR. REGINALD H. FITZ, Boston, read a paper on the "Symptomatology and Diagnosis," and commented on the association of diabetes with diseases of the pancreas. He reported 29 cases of steatorrhea in which jaundice was present in 12 cases and absent in 17. He laid stress on the importance of ascertaining the ability of patients to digest muscle fiber in cases of pancreatic disease, and in order to determine the power of the pancreas to digest and assimilate food he urged the feeding of such things as called for pancreatic activity. In his opinion the important differential diagnosis lies between acute and chronic conditions. In closing his paper he advised that in all cases of sugar in the urine an examination should be made of the feces for fat.

Injuries and Inflammations of the Pancreas.

PROF. JOHN VON MIKULICZ-RADECKI, Breslau, read a paper on "Injuries and Inflammatory Processes," and drew especial attention to the topographical relations of the pancreas. He stated there were two methods of exposing the pancreas, (1) transperitoneally, and (2) retro-peritoneally, and considered operations on this organ more dangerous than those on any other in the abdomen. He has collected 80 cases of operations, of which 41 died, and 37 were drained. He showed by statistics that all cases of pancreatic injuries not operated on died, while of those operated on many recovered.

Pancreatic Tumors.

DR. ROSWELL PARK, Buffalo, read a paper on "Tumors, Cysts, Etc.," in which he approved of Dr. Robson's six divisions of pancreatic disease. He referred briefly to two cases of obstruction of the pancreatic duct by lumbricoid worms, and expressed the opinion that hydatid cysts of the pancreas were extremely rare. He commented on the difficulty of dealing with the fistulæ that follow operations on the pancreas, and gave in brief the symptoms of pancreatic cysts. He claimed that the differential diagnosis must be made from at least thirteen different kinds of cysts, and dwelt at some length on the importance of drainage in these cases. He took up the question of cancer, tuberculosis and syphilis of the pancreas and advised operation when in doubt.

DISCUSSION.

DR. CHARLES G. STOCKTON, Buffalo, said that diabetes may exist without ascertainable disease of the pancreas. A relatively large amount of sugar may appear without a corresponding increase in the amount of urine, or a large amount of urine and not much sugar. He stated physiologists have found that the secretion of the stomach acted as a normal stimulus to the secretion of pancreatic juice, and that if the stomach secretion is diminished the secretion of the pancreas, as well as pancreatic digestion, should be diminished also, but claimed that clinically this is not the case.

He advised delay in accepting the Robson classification. He did not favor the classification of acute, subacute and chronic, until it had been proven that inflammatory processes of the pancreas are like those of other parts. He compared the induration of the pancreas with cirrhosis of the liver, and called attention to the difference existing between gangrenous pancreatitis and the ordinary gangrenous processes. Reference was made to Dr. Robson's suggestion that the hemorrhages from the pancreas may depend on the presence of glycerin, and to explain these hemorrhages as being of diabetic origin was considered very unsatisfactory, as they are altogether too frequent.

DR. HERBERT U. WILLIAMS pleaded for examinations for evidences of fat necrosis in making a diagnosis, and laid stress on the use of the microscope. He said that there is still something undiscovered and this unknown factor might be the one which is most concerned in the production of fat necrosis. Fat necrosis and hemorrhagic pancreatitis differ only in degree.

DR. MAURICE H. RICHARDSON, Boston, commented on the frequent investigation of acute lesions of the pancreas, due in many cases to a false diagnosis of appendicitis or some other acute lesion. At the Massachusetts General Hospital all the operative cases, four in number, were fatal, while a fifth case, one of acute pancreatitis, and a sixth, one of subacute pancreatitis, also died, whereas those cases in which there was simply an abscess, and drainage was employed, terminated favorably. The difficulty of making a diagnosis before operation was considered due to the absence of subjective and objective symptoms. The difficulty is chiefly caused by the obscurity of the onset, irregularity of the symptoms and absence of localizing signs. A class of patients in whom operative interference is a doubtful expedient was considered as those who are beyond middle life, of unfavorable physique, stout, flabby and of poor resistance. Brief mention was made of four cases of suppurations apparently dependent upon less extensive necroses, with well localized abscesses, of comparatively slow onset, in which drainage was easily employed by a simple incision. Favorable results were reported in six cases of cysts of the pancreas, benign new growths, and stress was laid on the necessity for painstaking palpations of the common duct in the search for gallstones, not a few enlargements of the head of the pancreas being discovered by this means. The treatment by cholecys-

totomy of patients suffering with jaundice, gallstones, and an enlarged pancreas, if drainage be employed, has usually been successful, but the author could not understand why deviation of the biliary stream through the abdominal wall should have any influence on pancreatic drainage. Much may be learned of pancreatic disease if careful examinations are made during abdominal operations, and especially if the abdominal incision be made large enough to permit of inspection of the pancreas, as well as palpation. While the surgery of the pancreas is encouraging, the Doctor did not think that the future of acute pancreatitis promised much improvement on the present results of surgical treatment until much more is learned concerning acute infections of this important organ, and especially its earliest manifestations.

PROF. B. S. A. MOYNIHAN, Leeds, England, called attention to the fact that many cases of pancreatic disease are discovered when operating for gall bladder disease, which was due, in his opinion, to surgeons having gone a step further in their gall bladder operations. He reported having operated on 15 cases of chronic pancreatitis, all of which recovered. The author has only been able to collect seven or eight cases of acute pancreatitis, two of which occurred in his own practice, both being associated with cholelithiasis, one recovering without operation and the other dying. Considerable stress was laid on the excellent work being done on this side of the Atlantic in this line of surgery, and especial praise was accorded Dr. Opie.

(To be continued.)

INTERNATIONAL CONGRESS OF MEDICINE.

Fourteenth Session, held in Madrid, Spain, April 23-30, 1903.

(Continued from page 1304.)

A New Symptom in the Diagnosis of Arteriosclerosis.

DR. L. MIRAGLIA, Naples, said that the movability of the apex beat offered a symptom of importance, hitherto not described, in the diagnosis of sclerosis of the root of the aorta. Normally the impulse lies in the fifth space, between the mammillary and parasternal lines, and migrates, in the left lateral decubitus, to a position midway between the anterior axillary line and the mammillary. Its displacement is about 3 centimeters. In sclerosis of the root of the aorta, this displacement may amount to 4 or 5 centimeters, and the impulse may appear in the axillary line or beyond. The phenomenon is due to the fixation of the base of the heart, as a pivot, a firm center, around which the heart swings, and, secondly, to the elongation of the heart which expresses the hypertrophy of the left ventricle. No other pathologic condition presents this symptom in equal degree. In the "nervous heart" of the young there is, indeed, a somewhat increased displacement, but it is far less in degree. On the other hand, advanced cases of tuberculosis or marasmus also present the phenomenon, owing probably to the decreased resistance of the lungs, but here also there is no possibility of confusing the conditions.

Cinnamate of Soda in Tuberculosis.

DR. A. S. HERRERA, Madrid, said that all the forms of medical treatment hitherto employed in the cure of tuberculosis had, by general consent, been discarded. The last vaunted method, that of Landerer, had given him good results in 20 per cent. of the cases of a very mild type. He had, however, discovered a modification of the method, which enabled him to achieve a cure in 80 per cent. of the cases of advanced tuberculosis with cavity formation. He uses Landerer's solution of 4 of cinnamate of soda to 100 of water, but employs the solution hypodermically instead of intravenously. He can thus give doses of 10 to 20 times the amount, without ill effect. He begins with 3 c.c. and increases up to 20 c.c. daily, which represents the normal dose. He has, however, given 70 c.c. in bad cases without ill effect. The improvement in the symptoms is prompt, and affects first the fever and the marasmus, then the cough. At the end of three months the bacilli have generally disappeared from the sputum. They may persist, however, as long as five or six months. All of the cases which resulted fatally in spite of this treatment presented previous involvement of the gastrointestinal tract, amyloid, etc., and died not of tuberculosis but of marasmus.

Treatment of Rheumatic Affections.

DR. R. BLOCH, Austria, asserted that the hypodermatic injection of tropacocain, in the form of a Schleich infiltration, accomplished therapeutic results not approached by any other method in the relief of the agony of neuralgias and myalgias of rheumatic origin. The injection should be made in the area of greatest tenderness to pressure, and varies slightly in technic from that practiced for surgical purposes, inasmuch as it demands the injection of as large quantities of the fluid as possible, with a syringe capable of exerting powerful pressure. The method is successful in acute, subacute, and chronic cases in which fibroid changes have not already taken place; furthermore, it offers a sign of diagnostic importance, since it offers relief only in the neuralgias of rheumatic origin. In rheumatic affections of tendons and joints it is available only in very light cases, with small amounts of exudation.

DISCUSSION.

PROF. CASTELLVI, Madrid, said that his method of obtaining analgesia in all the forms of neuralgia by the injection of pure oxygen gas at high pressure into the tissues also gave admirable results in the pains of chronic rheumatism and arthritis deformans. He illustrated his instrument, which consists essentially of a metal cylinder capable of holding the gas at high pressure, of a simple apparatus for regulating the flow of the gas, and of rubber tubing which connects the cylinder with a fine hypodermic needle. The injection is practiced preferably at the point of emergence of the nerves. The dose varies from 200-1000 c.c. of the gas, and must be empirically determined. Several injections may be made if there are seats of pains in various parts of the body. As a rule the resulting analgesia, which the author attributes to the chemical action of the gas, is limited to a zone of small radius from the center of injection. The pain begins to diminish about 15 minutes after injection, and the effects generally last 24 to 48 hours. It is almost specific in neuralgias, *e. g.*, sciaticas.

Radioscopy in Pulmonary Tuberculosis.

DR. HENNECART, Sedan, said that a study of 32 cases of pulmonary tuberculosis with the help of the *x*-rays had convinced him of its efficiency as a diagnostic aid. He found in 30 cases a diminution of clearness at the affected apex. In 14 cases, he found a decreased area of pulmonary illumination (William's sign). In 29 cases, he observed a diminished excursion of the diaphragm of the diseased side in inspiration.

(To be continued.)

CONFERENCE ON THE RELATION OF THE COLLEGE TO THE PROFESSIONAL SCHOOL.

Held in Chicago, May 8-9, 1903.

The current movement to reduce the total scholastic period devoted to preparation for the professional degree, and the taking of the same in a techniological, law, theological or medical school, is moving the small colleges and professional schools to look sharp to their future; for the shortened combined courses of the universities threaten these smaller institutions with serious diminution of patronage if they hold to their courses of traditional length, abstaining from any system of co-ordination and reciprocity in way of a time-saving route to the professional degree.

Accordingly, the conference of college presidents and professors assembled in Chicago May 8 and 9, by President James, of Northwestern University, to discuss the relation of the college and the professional school, will have an important bearing on the evolution of our national educational system, both with respect to the scope and perpetuity of the old-fashioned college and with the manner of qualifying in the various studies antecedent to the professional degree.

The conference was attended by delegates from remote parts, and stood for the sentiment and purpose of the smaller colleges and universities of the United States.

The Present Situation.

In a synopsis of the present situation Prof. A. V. E. Young, of Northwestern University, showed that since its opening the

Johns Hopkins Medical School has required the bachelor's degree for admission, and that such is now the requirement of the medical school of Harvard and that of Baltimore University. The medical school of Western Reserve University requires the equivalent of three college years; the medical school of the universities of Michigan and Chicago two, and of the University of Minnesota one. Other leading institutions emphasize the need of a general education as preliminary to medical study by encouraging the taking of a bachelor's degree before asking of them matriculation in medicine. The presidents of Yale, Columbia, Harvard and Cornell have given lengthy consideration to this matter in late reports, President Eliot advocating the bachelor's degree before professional study, and President Butler declaring it is the settled policy at Columbia that its technical and professional schools shall rest on a college course, though not necessarily four years of liberal study.

A National College Association.

No platform was adopted by this conference, nor was any policy formulated, but the conference ordained its own perpetuation in the appointment of a committee, President James, chairman, to select a commission of fifteen, which should report a program and plan of organization and membership one year hence, by this act providing for a new factor in the control of higher education in this country—a national college association.

The Speakers on the Medical Standpoint.

The subjects discussed by the conference were:

Has the college a field peculiar to itself, not covered by the technical school or by the demands of preparation for the professional school?

Is it desirable that the college course should be reduced in time from four to three or even two years and correspondingly in amount of work?

What subjects in the typical college course can be accepted by the professional school as qualifying in part for the professional degree so as to shorten the time required for graduation in the professional school?

If reduction is allowed, should it be (*a*) by acceptance of credits in the college of liberal arts for work done in the professional school, or (*b*) by acceptance in professional school for work done in the college of liberal arts, or (*c*) by combining these plans?

The relation of the technical school to the college.

On the third topic the speakers of professional training and connections, who sought to show how the independent college and the professional school, independent or with university relations, might work together and so shorten the period of their several courses, were Dr. Arthur R. Edwards, of the Northwestern University Medical School; Dr. R. McE. Schauffler, secretary of the faculty of the Kansas City Medical College; Dr. Frances Dickinson, dean of Harvey Medical College, and Prof. W. A. Locey, of the chair of zoology in Northwestern University. Dr. Edwards held that if medicine grows in the next ten years as it has in the last a medical course will require five or six years of study, and the courses of the college and medical school must overlap. He would have the college teach some of the sciences that are preparatory to medicine, for instance, chemistry and the principles of anatomy and histology, and so would demand of the college course that it do 60 to 80 per cent. of the work done in the first year of the medical school. In such way he would base a degree on a six years' pursuit of continued courses. On the other hand, from the point of view of the college, Professor Locey held that such work as the professional school offered for allowances in the college of liberal arts should be work done in a broad and liberal, and not an ultra-professional spirit. So taught, chemistry, physiology, histology, embryology, neurology, bacteriology and pathology, all sciences contributing to a knowledge of organic nature, might be accepted by the college.

Dr. Dickinson contended that high school graduates are not fitted for medicine, and that some college training is essential to medical study. In most medical schools, she said, the first two years belong to the college courses. Dr. Dickinson plead for one year's advance standing for five or more years of business training.

The Need of a College Course Foundation.

Dr. Schauffler said that, as a graduate of the medical department of Columbia, he wanted to say that although President Butler says that to require an A.B. for admission is economically impossible, and from the standpoint of social service unwise, nevertheless, one quiz master in that institution was not afraid to make a bachelor's degree an absolute condition for entrance to his quiz. With fifteen men from small colleges and from the academic departments of Yale and Princeton, taught largely in his office by methods of college rather than university, he took all three of the prizes at Columbia and in competition with all medical colleges in New York and many other centers east took twelve of the thirty best hospital appointments in the city. This was not for one year, but was about his average. Dr. Schauffler further said that he never knew of a man from the short-cut Columbia combined course who ever took a Harzen prize or secured a conspicuously good hospital appointment. It often happened that some other student, even one direct from a secondary school, by fine memory and application, stood higher on theoretical work than the Eliot quiz man, but when it came to practical examination in the diagnosis of unknown cases the ability to reason quickly and correctly, the poise, as some one here to-day has said, the "flexibility" of the college graduate always carried him through the ordeal successfully. What is the present situation? We are giving one year's credit on the medical course for an A.B. degree. The theory of this credit is involved in the question, "What subjects in the college course may be accepted for credit in the medical course?" We should say physics, biology, including histology and embryology, chemistry, physiology, comparative anatomy and botany, with a trend toward pharmacy, However, many of these subjects are the ones which, from lack of equipment or sufficiently large faculties, are most poorly taught in the colleges surrounding us. The year's credit for the A.B. is then often unsatisfactory, but we can struggle along with it. He said further:

Now comes the proposition from the universities to give the combined course in six years. It is flatly impossible for us to give two years' credit for the bachelor's degree. You may say that if the independent school can not stand the competition it must, in the course of evolution, go to the wall. That day must be sometime distant, however, in our part of the country, where the neighboring state universities are in small towns and can not, for lack of clinical facilities, entirely replace the city school. We are not whining over the pressure which comes from the universities on account of wealth and enlarged facilities. While it is requiring much effort and sacrifice, we must hold our own or we are not worthy to survive. What we do object to is the university throwing in an A.B. degree "to boot" for only two years, as an inducement to the student to spend his entire time within its walls. Until it is accepted by a reasonable majority of institutions that two years is sufficient time for a college course, we hold that this action is an effort to take an unfair advantage.

Of course we can immediately seek alliances with independent colleges surrounding us for joint traffic arrangements. As local conditions are at present in the West this will lead to much confusion and, moreover, give an opportunity for the college which is not over-scrupulous in its scramble for students to let down the bars just at a time when there seems hope of enforcing uniformity and thoroughness in medical education.

In my opinion our goal, which we can not in the West reach at a single bound, is:

1. Two years of a college course as a requirement for admission to a medical school.

2. No advanced standing for a degree *per se*, but only for specific groups of scientific subjects which adequately cover part of the first and second years of the medical course.

AMERICAN UROLOGICAL ASSOCIATION,

Second Annual Meeting, New Orleans, May 8 and 9, 1903.

The President, Dr. Ramon Guiteras, New York, in the Chair.

The Present Status of Urology in the United States.

DR. GUITERAS, in his president's address, reviewed urology as a specialty, distinct from surgery in general. He showed what this Association, modeled on the plan of the Societe d'Urologie Francaise, even in its brief existence, had done to establish the separate existence of urology. He further showed the need of such an organization which but a year ago had its first annual meeting. It then counted but forty members, while now it has over 150 of the most eminent men in our land.

Drs. Lydston, Guiteras and Valentine showed instruments.

The Diagnosis of Tuberculosis of the Kidney and Ureter.

DR. J. WESLEY BOVÉE, Washington, emphasized the need of establishing a positive or negative diagnosis, not only by cysto-

scopy but also by cultures and animal inoculations, by determining the presence or absence of the tubercle bacilli.

Prostatectomy.

DR. JOHN B. MURPHY, Chicago, gives preference to the radical operation over any of the palliative measures advocated.

DR. WILLY MEYER, New York, recited the results in fifty-nine prostatics on whom he had operated by the Bottini incisor in the past five years. His experience in these cases led him to advocate the use of the Bottini instrument.

DR. GRANVILLE MACGOWAN, Los Angeles, reported a patient whose prostate he had enucleated for sarcoma. As the patient had had no recurrence in four years and finally died from other causes, the author believed that early radical operation in such cases should be performed.

DISCUSSION.

DR. MCRAE believed that the suprapubic operation for prostatectomy was the easier operation for the surgeon with a good sense of touch and not afraid of the bugbear of hemorrhage. He believed continuous catheterization was an important measure.

DR. FERGUSON, Chicago, believed the perineal route was the operation of choice and the route to take in the large majority of cases. He described his method of procedure and preferred removing the prostate piecemeal. The tendency to do a complete prostatectomy, he thought, was passing, and more attention being given to the removal of the obstruction only.

DR. LYDSTON, Chicago, condemned any tendency to routinism and did not believe that any considerable number of cases could be operated on by any one method. There was a time when he thought the suprapubic method was the proper one. He now believes that the combined method is the ideal way, though, unfortunately, we usually have a septic bladder to deal with. The cases are usually brought because nothing else can be done for them, and they have infected bladders and surgical kidneys. For this reason he emphasized the need for earlier operations in most cases, and thought the results would then be as favorable as in operations on other portions of the tract.

DR. MACGOWAN said that wherever we have reason to suspect cancer of the prostate we should use the Bottini operation. There is practically no danger from hemorrhage. Wherever the patient is too weak to be confined to bed for any considerable time, use the Bottini method. Wherever the collection of urea is below 20 g. per day, use the Bottini method.

DR. GUITERAS spoke from the standpoint of prostatic obstruction, the object of the operation being to enable the patient to empty his bladder, or as nearly as possible the actual size of the prostate remaining a secondary question. Formerly he had been enthusiastic in advocating the suprapubic operation, but has now almost abandoned it and would perform this operation only in cases where the prostate was high up on the bladder. In attacking through the perineum he employs a large perineal tube and leaves this in position for a week or ten days. This gives the space where the prostate has been a chance to close up. As an aid to the finger he advocated the use of the prostatic depressor which enables the operator to push the prostate down into reach. There are two varieties of prostatic enlargement—the variety which can be shelled out and the variety which causes an obstruction in the floor of the prostate, where there is a collar or some deformity preventing the patient from emptying his bladder, and these are the cases for the Bottini operation. He believed the Bottini operation has a high place in prostatic surgery.

Retention of Urine.

DRS. FERD C. VALENTINE and T. M. TOWNSEND, New York, subsequent to analyzing the causes of retention, showed that the emergency is entirely within the general practitioner's field. They pointed out the method by which each kind of emergency must be met and the technic thereof.

DISCUSSION.

DR. LYDSTON said the relation of this society to the general practitioner is largely educational. Only the specialist sees the result of injudicious work done by the practitioner in his efforts to relieve retention. He said there are still some physicians who think it perfectly proper to lubricate the catheter with the soap at the office sink. He thought more emphasis should be placed on the danger of complete and sudden emptying of the bladder after prolonged retention.

DR. SHELBINE, Texas, mentioned the case of a patient having lost the catheter which slipped back into the bladder. Suprapubic cystotomy was performed and the catheter recovered.

DR. GUITERAS thought the lithotrite might have been used for the recovery of the catheter.

DR. VALENTINE said the case was of practical interest. He had three cases where he was sure the reflex swelling would take the catheter into the bladder very rapidly should it be released.

AMERICAN ACADEMY OF MEDICINE.

Twenty-eighth Annual Meeting, held in Washington, D. C., May 11, 12, 1903.

The President, Dr. Charles McIntire, Easton, Pa., in the Chair.

Drs. Helen C. Putnam, Edward Jackson and George G. Groff were appointed a committee to report on the teaching of school hygiene at the next annual session.

Time Allowance in the Combined Collegiate and Medical Course.

DR. A. L. BENEDICT, Buffalo, stated that a large number of replies had been received to communications sent to colleges, medical schools and universities by his committee. Some conclusions drawn were that it will be impracticable for many years to insist on the basis of a bachelor's degree as a preliminary to a medical training; that it may be expected that all of the more densely populated states will have insisted on a full high-school education for medical students within a few years; that a combination collegiate and medical course of six or seven years will produce a higher average attainment than the admission of the high school and college graduates to the medical school on precisely the same basis; that the combination course is not to be considered as compromising the educational value of the college course or the technical value of the medical, provided, that a suitable arrangement of details is made; that the segregated medical colleges manifest the tendency to minimize the importance of mental training and broad culture and to exaggerate the importance of purely technical facts; that unless it be granted that the tendency to the destruction of the independent college and to the inferiority of the independent medical school is inevitable and desirable, voluntary co-operation and legislative control must be invoked in the interests of such institutions.

Results of the State Examinations for Medical Licensure in 1902.

DR. CHARLES MCINTIRE made a report, giving the results of examinations in all states arranged by colleges.

DR. H. BERT ELLIS, Los Angeles, Cal., read a paper on "The Necessity for a National Bureau of Medicines and Foods."

The Life and Education of Our Girls as Affecting Their Future.

DR. JAMES H. MCBRIDE, Pasadena, Cal., in a paper on this subject, urged the necessity of good physical development as a foundation for mental development. He referred to the necessity of girls knowing something of the duties of home life and of the responsibilities of motherhood. He stated:

> The mind is the highest expression of human life. Our ancestors shaped our bodies by their lives. Their lives afforded them exercise. We need to find something to develop our bodies now that our mode of living has changed. Especially true is this of woman, whose greater complexity and more delicate organism makes it important that she lay a good physical foundation.

Overstudy, unhygienic dress, and fictitious animation are common causes of nervous disorder and other forms of ill health in girls and women. The highest ideal for girlhood, he said, is thorough womanhood.

DISCUSSION.

DR. S. A. KNOPF, New York City, believed that the American women have improved in physical development very wonderfully in the last twenty-five years. In the better classes of society investigation would show that physically women had gained more, proportionately, than men; possibly this was also

true morally and mentally. On the other hand, in the lower classes of society, the development of women had been sadly neglected, particularly through the curse of child labor. This is particularly so in the eastern states. Regarding the education of children, he believed that the superintendents of the public schools should be educated to cut down the curriculum and to pay more attention to the physical development of the children.

The Teaching of Hygiene in the Public Schools.

The afternoon was devoted to a symposium on the above subject.

DR. WALTER L. PYLE, Philadelphia, read a paper entitled "The Teaching of Personal Hygiene." Dr. Pyle contended that what is needed is simple instruction by capable teachers in the proper care and use of the body, authoritatively based on the best available modern, anatomic, physiologic and hygienic data. The aim should be to give every man fundamental knowledge that will enable him to understand and if necessary formulate the requisite rules of health, and to distinguish scientific medicine from quackery. He strongly urged more literature and personal explanation in this direction from the medical profession. The instruction should be begun before habits of carelessness and indifference are formed. Teachers should be trained in the proper care and use of the human body in order to give this instruction.

DR. GEORGE G. GROFF, Lewisburg, Pa., presented a paper on "Physiology vs. Hygiene in Our Public Schools," which was read by the secretary. Dr. Groff said that anatomy and physiology should not be taught young children because the subjects are in the main beyond their comprehension; teachers are not prepared to teach the subjects; the impressions received by young children are unfavorable when anatomic structures and physiologic processes are displayed to them. Plain hygienic instruction can be readily comprehended without anatomy or physiology. Physiology as physiology he would not have taught below the grade of the high school, because teachers have no adequate knowledge of the subject; and because, until this time, pupils are not prepared for it. Personal hygiene is best taught to young children through incidental talks given at suitable times. Existing text-books need revision, he stated, in reference to loose generalized statements, inaccurate statements and statements actually false. Numerous examples of gross misstatements were cited.

The Teaching of Physiologic Breathing.

DR. G. HUDSON MAKUEN, Philadelphia, said it has been estimated that there are in the United States alone more than 300,000 stammerers, and that a study of this distressing affliction as manifested in several hundred cases has led him to the conclusion that its chief cause is faulty breathing in childhood. Still more serious is the result of faulty breathing on health and general development. Many grave diseases of childhood may be traced directly to the impoverished condition of the blood due to inadequate oxidation. The important factor is the unnatural and cramped position assumed by children in school. The importance therefore of establishing correct physical habits during school life can not be overestimated. He would have the teachers insist on the children taking correct positions at all times as a preliminary to physiologic breathing. Physical obstruction to normal breathing should be removed as early as possible. All breathing exercises are harmful when they are obstructed in the respiratory tract. As an examination of the eye is insisted on in the schools, so would he insist on an examination of the respiratory tract. It has been estimated that about 70 per cent. of people fail to use the nose in breathing at night, and in so doing fail to get the 20 to 40 per cent. of heat and the 60 per cent. of moisture in the respired air that should come from the nasal passages, and, moreover, they take into the throat countless germs that would otherwise find lodgment in the vestibules to the nostrils.

Dr. Makuen quoted the census of 1900 as showing that about 40 per cent. of the deaths occurring between 20 and 50 years were due to diseases of the respiratory tract. He is convinced that faulty breathing is an important factor in the causation of this great mortality, and that the percentage may be reduced by the scientific teaching of physiologic breathing.

Teaching of School Hygiene.

DR. HELEN C. PUTNAM, Providence, R. I., in the next paper, maintained that the head of the department of hygiene in public schools should have medical and liberal degrees, five years' private practice and at least two years' special study of pedagogics, gymnastics and school sanitation. The department should conduct medical inspection, supervise sanitation and teach hygiene in theory and practice. The staff of the head of the department should comprise inspectors who are qualified physicians; teachers of hygiene, college and normal graduates who took scientific electives; of physical training and "domestic science," from special schools. It is suggested that the department can be established by city authorities, though this would be less satisfactory than by private endowment. In the private endowment plan one advantage is a special committee, safe from political influence, to administer the funds.

Methods in Michigan Schools.

DR. VICTOR C. VAUGHAN, Ann Arbor, Mich., reviewed the attempts made in Michigan to secure instruction in hygiene in public schools. Under authority of the State Board of Health a monthly sanitary bulletin is sent free to every teacher in the state. This plan has been found to work satisfactorily.

The Training of Teachers of Hygiene.

DR. THOMAS D. WOOD, New York, maintained (in a paper read by Dr. Edward Jackson) that every teacher in the public schools should be a teacher of hygiene and the art of health, and should be in personality and conduct an example of rational living. There should be thoroughly trained special teachers of hygiene to supervise the instruction given in matters of health by the general teacher. The general teachers should be trained in the normal schools for this health instruction by course in biology, physiology, personal and school hygiene and sanitation.

DISCUSSION.

HON. WILLIAM T. HARRIS, U. S. Commissioner of Education, Washington, D. C., stated that with the matter of hygiene in the public schools in the hands of regular physicians great improvement would be brought about. The gymnastic exercises popular in the public schools he feels rob the brain of nervous energy and, if vigorous, can not be good for the child after a hard lesson. The only result of calisthenics under such conditions is to give a tendency toward nervous dyspepsia. The only aid in the teaching of hygiene in the public schools he felt must come from the medical profession.

DR. S. A. KNOPF, New York City, said practical hygiene could be taught a child of 4 or 5 years, in that it could be taught that it should not kiss its neighbors on the mouth, and that when it had dirty finger nails it should not scratch itself, and that a cut finger should be allowed to bleed, put under clean water and wrapped up. When the child gets older it should be taught not to expectorate on the floor and that all expectoration contains what are called pathogenic micro-organisms. In his own practice many tuberculous patients did not know what it meant to take a deep breath. In the teaching of school hygiene in New York they have experimented in having the nurse attached to the school, go to the home and teach the mother how to take care of a child sent to the school suffering with any skin disease. One practical lesson in hygiene taught the mother he thinks of more value than many to the children. In addition to the sanitary bulletin issued to the teachers mentioned by Dr. Vaughan, he would have leaflets on hygiene sent to the pupils.

DR. F. H. GERRISH, Portland, said that if there were no teaching of hygiene at the present time it would be comparatively easy to institute a good method. The pernicious method now in vogue could be readily understood by an examination of some of the books recommended.

DR. JAMES H. MCBRIDE, in reference to faulty positions of school children, said that many a child seemed dull because he was not taught to sit up and keep his muscles in harmony with his mental attitude. He suggests that a school of hygiene for physicians might be of value.

DR. W. R. WHITE, Providence, thought the experiment described by Dr. Putnam an extremely practical one. He thinks the time is coming when the school physician will have his proper position, and that the instruction which the head of this department would give through his assistants to teachers,

enabling them to distinguish early the symptoms of different diseases, would be of the utmost value in the saving of time and of public money.

DR. A. L. BENEDICT, Buffalo, thought a sharp distinction should be made between hygiene and the teaching of hygiene. Both are important subjects and it is difficult to avoid confusing them.

DR. EDWARD JACKSON, Denver, believed that the teaching of hygiene by the wholesome, healthful life is the supreme object. It is not the teaching of hygiene as a special technical branch which deals with the periods of incubation of certain diseases or the particular way in which certain bacterium is transmitted, but the teaching of the healthful life; and, in these discussions, the personal hygiene, he thought, was too much lost sight of. The important thing in school hygiene is to have the supervisor of the right sort. While he does not think the present system of school hygiene altogether a hindrance, as had been indicated, he thought it a matter of shame to the medical profession that these laws had been framed, passed and enforced in nearly all the states by persons who had no intelligent comprehension of what the teaching of hygiene should be.

DR. G. HUDSON MAKUEN believes that the value of the gymnastic exercises is not alone in throwing the windows open and getting fresh air into the school room, not so much in the exercise of the muscles, but in the exercise of the mental faculty, the faculty of attention and of imitation. He believes that the calisthenic exercises have in them elements of psychical development not found in the average school work and study.

At 8 p. m., the president, Dr. Charles McIntire, gave his address on "Muck-Rake Methods in Medical Practice."

(To be continued.)

AMERICAN GYNECOLOGICAL SOCIETY.

Twenty-eighth Annual Meeting, held in Washington, D. C., May 12 to 14, 1903.

(Continued from page 1447.)

Myomectomy or Hysterectomy.

DR. JOSEPH TABER JOHNSON, Washington, D. C., said the treatment depended on the size, variety and location of the tumor, as well as the size of the pregnancy. Myomectomy in favorable cases should be the operation of election. However, cases occasionally present themselves with such urgent symptoms as to require supravaginal hysterectomy as a life-saving operation. He described briefly successful operations of both varieties. He discussed the questions of abdominal and pelvic operations during pregnancy; also the propriety of inducing premature labor, as well as the policy of trusting to the *vis medicatrix naturæ*.

Pregnancy and Labor Complicated by Myomata.

DR. GEORGE TUCKER HARRISON, New York, followed. No general rules can be laid down with reference to the treatment, as each case must be carefully studied in all its circumstances before recourse is had to operative intervention. The dangers of this complication of pregnancy as a cause of dystocia were formerly over-estimated. The plan of treatment during pregnancy, as a rule, is an expectant one.

Discussion on Fibroids, Etc.

DR. EDWARD REYNOLDS, Boston, spoke of the treatment of large incarcerated fibroids, at or near term, in advance of the fetal head. He has seen ten such cases. No one of these tumors was smaller than the seventh month fetal head. In each instance the woman was delivered either normally or by forceps.

DR. J. DUNCAN EMMET, New York, said there is no question but that certain myomata must be removed either by myomectomy or by the radical removal of the uterus, while there are other cases in which the tumors do not interfere with the course of pregnancy. He was glad one of the essayists had emphasized a preference for myomectomy rather than the removal of the uterus, for the reason that the latter is such a serious procedure in its after-effects, etc.

DR. WM. R. PRYOR, New York, expressed himself in favor of conservatism in the treatment of fibroids associated with or complicating pregnancy. If the tumors are situated in the anterior wall of the uterus, and are very small, they would slide up over the pubes without much trouble. Even before the seventh month, while some of these tumors may seem to be an actual bar to delivery, they accommodate themselves by their softness to the situation. Subperitoneal fibroid tumors complicating pregnancy demand operation, as a rule.

DR. HENRY D. FRY, Washington, D. C., spoke of emptying the uterus, saying he thought the cases are rare where this procedure is called for. The treatment is either expectant or radical. Those tumors which indicate emptying the uterus are necessarily located in the lower uterine segment, and yet some of these occasionally rise in the pelvis and give very little or no trouble.

DR. WALTER P. MANTON, Detroit, looked on cases of fibroid tumors complicating pregnancy as very rare. Personally, he has seen but six such cases out of approximately five or six thousand cases of labor in both private and hospital practice. In the majority of cases of interstitial submucous fibroids, abortion almost inevitably occurs between the third and fifth months.

DR. REUBEN PETERSON, Ann Arbor, Mich., spoke of a case on which he had operated. The tumor was located in the lower uterine segment, and was of the interstitial variety. He did a myomectomy, the woman went on to full term and was delivered of a child.

DR. GEORGE J. ENGELMANN, Boston, had twice seen the disappearance of fibroids following confinement.

The symposium was further discussed by Drs. Charles M. Green of Boston; Arthur W. Johnstone of Cincinnati; James Clifton Edgar of New York City, and the discussion closed by the essayists.

Combined Bisection of Tumors and Uterus, with Enucleation of the Former, in Abdominal Hysterectomy for Large Fibroid Tumors.

DR. GEORGE H. NOBLE, Atlanta, Ga., read a paper entitled as above. In case of large fibroid tumors in the body of the uterus the author recommends bisecting the tumor, bisecting the uterus and then enucleating the bisected tumor. In intraligamentous tumors the uterus should be bisected, the capsule of the tumor penetrated from the cavity of the uterus and the tumor enucleated from its capsule.

The advantages of this method are: Saving of time, prevention of hemorrhage, increased working space, easy manipulation, accessibility to the blood supply in the deep pelvis, and freedom from liability of injury to the ureters and uterine arteries.

Dr Noble then discussed "The Enucleation of Intraligamentous and Postperitoneal Fibroid Tumors in the Deep Pelvis." He stated that he had received a reprint from Dr. Pryor, in which Pryor anticipated him in the treatment of intraligamentous tumors or postperitoneal fibroids in the deep pelvis. As the principle is the same, and both of them only differ in technic, the essayist indorses it. Intraligamentous tumors are partially enucleated by penetrating their capsules from the cavity of the uterus after bisecting the organ. They should be turned out with the fingers and morcellation forceps, then drawn up and rotated outward as described. The portion of the tumor attached to the capsule everts the latter as it is drawn out of the abdominal incision, and often to such a surprising extent that it may be included in the ligature placed around the upper border of the broad ligament. In this way the capsule in some cases may be entirely removed, and in others only cut away, and, if within the ligature of the pedicle, avoids the necessity of suturing the edges of the capsule. He said that Dr. Pryor did complete enucleation of the tumor and sutured the capsule, while he partially enucleated the tumor, utilizing its attached portion to pull up the capsule, transfix and tie off, in part or entire, with the ligature of the broad ligament.

The Relation and Corelation of Gynecologic and Nervous Affections.

DR. CHAUNCEY D. PALMER, Cincinnati, spoke of this relationship from two standpoints: (1) What influence do female

pelvic diseases have in the induction of nervous disorders? (2) What affections of the female pelvic organs arise from nervous derangements?

He ruled out any thought of the occurrence of any organic, so-called structural, lesions of the nervous system, as resulting, unless indirectly and quite remotely, from pelvic diseases. The morbid changes to which reference was made were hysteria, neurasthenia, neuralgia, chorea, epilepsy, hystero-epilepsy, certain paralyses, migraine, convulsions of certain kind, including tetanus, also mental aberrations and vasomotor changes.

While many hysterical women have no anomaly of the sexual organs, a certain proportion of them have some imperfection in the development of their sexual apparatus, especially the uterus. Hence, the justifiability of an oöphorectomy in some such cases. Should the sexual organs be diseased in hysterical women, one could not say that the hysteria was secondary. Psychical causes are at work which are more potent than the local disease.

Errors in diet, in general hygiene, in lack of rest, and in various indulgences of the mind and body in girlhood, lead to physical anomalies and give rise to abnormal mobilities of the nervous system. The functions of ovulation and menstruation play more than the ordinary rôle in the inauguration of nervous phenomena.

The author spoke of cases of insanity having been promptly relieved by gynecologic operations. Likewise, insanity had immediately followed operations. Such sequelæ were probably more common than after other operations.

In the treatment of women for the special diseases of their sex there is too much of a tendency to place undue stress on real or supposed lesions of her reproductive organs. This is particularly true in reference to some so-called ovarian affections. Gynecology of to-day would not amount to much without an appropriate surgery, but indiscreet surgery, like overmedication, may be an abuse. Every theory in medicine must be the outgrowth of an extended experience. "Knowledge comes, but wisdom lingers."

The Etiology, Pathology and Treatment of Puerperal Sepsis.

DR. HIRAM N. VINEBERG, New York, contributed this paper. Severe sepsis may be caused by a variety of pathogenic germs. The variety of germs found in the uterine discharge in a given case is no criterion of the severity of the case, and forms no safe guide as to prognosis or as to the treatment to be adopted. Bacteriologic examination of the blood is of little value, either from a prognostic or therapeutic standpoint. The treatment of puerperal sepsis must be based chiefly on the clinical history and physical signs of each individual case. Wounds or infection in the perineum, vagina or cervix are to be treated on the general surgical principles of irrigation and drainage. Curettage is indicated where there are evidences of placental decidual residue in the uterus independent of the variety of bacteria that may be found in the uterine cavity. In those rare cases in which adherent and sloughing placental tissue can not be removed, either with the sharp curette or fingers, hysterectomy is indicated, provided the patient is not already moribund. Hysterectomy is also indicated in cases of septic endometritis or infection of the placental site, so long as the infection is still limited to the uterus, and when the symptoms steadily grow worse in spite of uterine irrigation, with or without curettage, and appropriate hygienic stimulating treatment.

In abscess of the uterus the abdomen should be opened, and, when feasible, the purulent foci should be drained and the uterus preserved. If the uterus be studded with small abscesses hysterectomy is indicated. The abdominal is to be preferred to the vaginal route for hysterectomy. If the infection has passed from the uterus into one or other tube, and has set up a violent grade of inflammation, the abdomen should be opened and the infected tube removed before a general peritonitis develops. When the infection has passed through the uterus, and has set up a general peritonitis, a case might occasionally be saved by a timely abdominal section and drainage. In cases of parametric exudates the treatment should be conservative, and surgical intervention is indicated only when there are evidences of pus formation. In obscure cases in which the pathologic lesion can not be determined, and the symptoms are steadily growing worse, it may be advisable to open the abdomen to search for a hidden purulent focus, or for a circumscribed slough of the uterus. The procedure proposed by Trendelenburg, and executed by him and others, of ligating the pelvic veins when they have become infected and thrombosed, is worthy of further trial.

DISCUSSION.

DR. WM. R. PRYOR, New York City, took issue with the essayist in regard to the significance of certain pathogenic germs. In mild cases of puerperal sepsis, very rarely is the streptococcus present, while in the severe ones streptococci are found. In the mild forms of the disease many other kinds of germs are found, chiefly staphylococci and saprophytic bacteria. The form of puerperal sepsis which demands careful attention is due to the streptococcus.

DR. EDWIN B. CRAGIN, New York City, related his experience at the Sloane Maternity. In this institution infection occasionally occurs, because cases are taken undelivered, no matter whether they have been handled by midwives or by beginners. Women are admitted whether they are just in labor or whether they have been in labor for several days. Occasionally a patient has been lost from puerperal infection, although pathologist and bacteriologist were unable to find the streptococcus. A number of severe cases have been observed in this maternity in which a variety of bacteria were found in the uterus. In the management of puerperal sepsis he emphasized two points: First, to make sure the uterus is emptied. Second, in making sure that it is emptied, do just as little damage to the inside of the organ as possible.

DR. J. WHITRIDGE WILLIAMS, Baltimore, laid stress on the value of bacteriologic examinations of the uterine lochia and of the blood. In many cases there is no definite indication for treatment from such examinations, yet there is no doubt in his mind that important and valuable information as to the condition of the patient can be elicited in this way, more particularly by examining the blood. He has seen but two cases of puerperal sepsis in which he feels operation was distinctly called for.

DR. MATTHEW D. MANN, Buffalo, N. Y., spoke of gonorrheal infection in connection with the puerperium. Recently he saw a patient in consultation who had been sick for more than a week when she was first observed by him. Her temperature reached 111 before death. She had been having a temperature of from 107 to 108 for a number of days. Pulse was 120. Examination of the discharges by competent bacteriologists showed a pure culture of the gonococcus. There was no other germ present in any of the secretions. He thought the infection would localize itself and the woman would recover; but the joints and heart became affected and the patient died.

DR. G. GILL WYLIE, New York City, said there can be no question but that surgical intervention is indicated in some of the severe cases of puerperal sepsis. Of his first nine cases, which were treated at the Bellevue Hospital some twenty years ago, seven were dealt with locally and two surgically. He believes the uterus should be emptied in every case of severe streptococcus infection.

DR. EDWARD P. DAVIS, Philadelphia, in speaking of hysterectomy in cases of puerperal sepsis, stated that this operation has nothing definite to support it except in rare cases of adherent placenta. A method which yields good results, where irrigation has failed, consists in opening the abdomen and inspecting the uterus, tubes and ovaries, freeing adhesions, etc., and, if there is a collection of pus in the tubes, drainage by means of iodoform gauze carried through into the vagina, separating the organs from abnormal adhesions.

DR. MALCOLM MCLEAN, New York City, referred to the curette as a dangerous instrument in cases of puerperal sepsis in the hands of the average general practitioner. Emptying of the uterus is an absolute necessity in some cases, especially where there is evidence of putrid absorption, with chill and sudden high temperature.

DR. HENRY D. FRY, Washington, D. C., said the practice at the Columbian Hospital, where a large number of maternity cases were observed, was first to thoroughly clean out the

uterus, particularly if the patients were seen at the beginning of sepsis and it was confined to the uterine cavity. After having taken a culture, active treatment of the uterus is suspended until the result of the culture is made known. If there are retained pieces of placenta, and blood clots, accompanied with a foul odor, producing infection, the indication for cleaning out the uterus is clear. On the contrary, if the culture showed streptococcus, staphylococcus, colon bacillus, or gonococcus, the uterus was left alone. In cases of streptococcus infection he believes the use of the curette does a great deal of harm, in that it breaks down the protective zone of inflammatory tissue, which is thrown out by Nature and which causes ultimately a general systemic infection.

DR. HERMAN J. BOLDT, New York City, said experience has taught him, so far as the treatment of puerperal sepsis is concerned, that a bacteriologic examination of the secretions from the vagina or from the uterus, or a bacteriologic examination of the blood, furnishes no indication whatever for treatment, because there is usually a mixed infection, both streptococci and staphylococci being found in the secretions of the uterus and vagina. Such patients frequently manifest mild clinical symptoms, although operative intervention is not indicated. In all cases that come under his care, examinations of the secretions and of the blood are invariably made, and in patients who show bacteria in the blood, even a pure staphylococcus infection, the general condition of the patient does not seem to indicate the need of surgical intervention, consequently they are left alone, and recover. On the other hand, many patients show absolutely no bacteria in the blood, yet they die, so that, as the result of accumulated experience, bacteriologic examinations of the secretions and of the blood of such patients do not give a definite clue as to the indication for treatment.

Hysterectomy is of no avail in the severe cases of puerperal sepsis, as the patients die within a few days.

DR. SETH C. GORDON, Portland, Me., thinks surgical treatment is undertaken too early in some cases of puerperal sepsis. If there are abscesses of the fallopian tubes, they should not be opened until one is quite sure that he can make a straight incision from the vaginal vault into the abscess cavity, without having any doubt as to whether pus is limited to the top of the vaginal wall. Every time an abrasion is made in the uterus or vagina with the curette or knife, he thinks a new avenue of infection is opened up, and causes, in many cases, a great deal of harm.

DR. H. G. WETHERILL, Denver, referred to the Carosso method of treatment of puerperal sepsis, saying its value was unquestionable. This method has been advocated particularly by Dr. Edward J. Ill, of Newark, N. J.

(To be continued.)

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

Seasickness.

According to an abstract in the *Indian Med. Record*, railway and seasickness is due to the rapidly changing focus, occasioned by the eyes closely following the apparent approach and withdrawal of objects. It was observed that by closing one eye the usual unpleasant sensation was prevented. On sea the sickness is likewise produced by watching the top of the waves, and this, together with the movement of the ship, which, according to the author, complicates very much the mechanism of focusing produces an intersection of focus curves, and thus causes seasickness. Covering one eye abolishes all these curves and relieves the nervous condition. So lying on the back serves a similar purpose because the eyes are then focused at a definite and fixed distance. Lying on the side is not so good because of the greater probability that the focus will be changed.

Calcium Chlorid in Scrofula.

Lilgois, as noted by the *New York Med. Jour.*, states that calcium chlorid is of value in the treatment of scrofula. The salt contains more than one-third of calcium, is of great benefit to the osseous system, in scrofula, which is poor in mineral matter. The following combinations are recommended:

R.	Calcii chloridi Calcii phos., āā	gr. viiss	50

M. Ft. chart. No. i. Sig.: One such after the mid-day and evening meals; or:

R.	Calcii chloridi	ʒi	4
	Aq. destil.	ʒxii	360
	Syr. Corsican moss	ʒiss	45

M. Sig.: To be taken in three doses during the day; or:

R.	Calcii chloridi	ʒii-ʒiiss	8-14
	Aq. destil.	ʒxvii	510
	Syr. gentianæ	ʒii	60

M. Sig.: One or two tablespoonfuls daily; or:

R.	Calcii chloridi	gr. lxxv	5
	Syrupi	ʒxiii	390
	Aq. menth. pip.	ʒiiss	75

M. Sig.: One tablespoonful before each meal.

The calcium should be continued for weeks, and in some cases the treatment should be prolonged for months.

Gonorrhea.

The following outline of local treatment of gonorrhea, according to the *New York Med. Jour.*, is recommended by Z. Rojos de Molina:

R.	Zinci sulphatis	gr. iss	09
	Aquæ destil.	ʒi	30

M. Sig.: Use as an injection after each urination.

The author prefers the foregoing combination to potassium permanganate, protargol or other similar preparations. In order to subdue the pain after each micturition, the patient is directed, after each urethral injection, to inject a small amount of the following:

R.	Zinci sulph.	gr. 3/10	018
	Cocainæ hydrochlor.	gr. iii	20
	Aquæ destil.	ʒv	20

M. Sig.: As an injection.

Quinin Salicylate.

Moore, in the *Practitioner*, states that quinin salicylate is of great service in the treatment of rheumatism. In diphtheria, in addition to the administration of antitoxin, he recommends the following as a spray to the throat:

R.	Resorcin	gr. x	65
	Aquæ	ʒi	30

M. Sig.: Locally as a spray.

He also gives quinin salicylate in 3 to 5 grain (.20-.30) doses, according to the age. It is of great service also in influenza, pneumonia, typhoid fever, scarlatina, erysipelas and measles. He also prescribes it in herpes zoster to relieve the pain and in chlorosis as a gastro-intestinal antiseptic and disinfectant.

Alopecia Circumscripta.

Shoemaker, in *Med. Bul.*, states that persons troubled with alopecia circumscripta generally require constitutional treatment by means of diet and proper medicine.

The following combinations are advised by him:

R.	Syr. ferri lactati	ʒii	8
	Ext. malti diastasic	ʒvi	180

M. Sig.: One dessertspoonful three times a day, after meals. Locally the following:

R.	Sulphuris sublim.	ʒi	4
	Olei eucalypti	m. x	65
	Acidi salicylici	gr. x	65
	Ung. zinci oxidi	ʒi	30

M. Ft. ung. Sig.: Rub into the affected spots well twice a day.

Acute Parotitis.

E. Grande, in *Scm. Méd.*, advocates the employment of guaiacol in the treatment of epidemic parotiditis. He applies it locally in the form of an ointment of 5 per cent. strength

and repeats the application four or five times during the day, followed by a thick covering of absorbent cotton. The swelling rapidly subsides and the pain on chewing and swallowing is likewise decreased. He is of the opinion that the guaiacol exerts a local antiseptic action as well as an analgesic condition. No eczematous condition follows the application to the face as is frequently the case when applied to the scrotum.

Eczema.

In chronic eczema the same author recommends, after correcting the cause, the following outline of treatment:

℞ Vini antimonii ..... ℥iii 12
Tinct. nucis vom. ..... ℥iii 12

M. Sig.: Ten drops four times a day, gradually increased to twenty drops four times a day.

The antimony, it is believed, allays the congestion and promotes the elimination.

Externally the following is used:

℞ Chloralis hydratis ..... ℨss 2
Camphoræ ..... gr. x 65
Acidi carbol. ..... m. xx 1 30
Ung. zinci oxidi ..... ℥i 30

M. Ft. unguentum. Sig.: Apply locally night and morning.

Hemorrhoids.

Dr. J. P. Tuttle, in *Interstate Med. Jour.*, favors the treatment of hemorrhoids by means of injection, using a moderately strong solution of carbolic acid in order to set up inflammatory induration, which will cut off a portion of the circulation to the growth and result in gradual atrophy. He claims, with the proper antiseptic precautions, that there is no danger of sepsis, abscess formation or sloughing. He recommends the following combination to produce the results above stated:

℞ Acidi carbol. ..... ℥ii 8
Acidi salicylici ..... ℨss 2
Sodii biboratis ..... ℥i 4
Glycerini q. s. ad ..... ℥i 30

M. Sig.: Five minims to be used as an injection into the hemorrhoid.

At the end of one week, as a rule, the remaining tumors may be similarly treated.

In the varicose type of external hemorrhoids prompt evacuation of the bowels should be obtained by administering a cold enema, after which the following ointment should be applied:

℞ Ung. acidi tannici
Ung. belladonnæ
Ung. stramonii, ää ..... ℥i 30

M. Sig.: Apply freely to the affected parts.

Dandruff.

The following is recommended by Merck's Report:

℞ Resorcin ..... ℥i 4
Tannoformi ..... ℥i 4
Acidi salicylici ..... gr. v 30

M. Ft. chartula. Sig.: Dissolve the powder in three ounces of alcohol just before use, to which is added one ounce of water and the entire amount filtered; or:

℞ Resorcin ..... ℥i 4
Acidi borici ..... ℨss 2

M. et fiat chartula. Sig.: Dissolve in four ounces of water just before using.

Rachitis.

Burney Yeo, in *Clin. Ther.*, recommends, in the treatment of rickets, that too much carbohydrates should not be given to hand-fed children. The milk used should contain its full proportion of cream. He recommends cod-liver oil made into an emulsion with lime water flavored with sugar of milk, giving ten or fifteen drops at a dose. The pulp of raw meat is also of great service, giving as much as two ounces (.60) daily, varying the amount according to the age. In feeding older children milk puddings may be served made out of entire wheat flour, or sandwiches or raw meat pulp, meat juices and broths, eggs beaten up with milk, and the juice of fresh fruits may be added. The proper attention must be given to hygienic surroundings, sunshine, etc.

Rachitic children are more susceptible to pneumonia and other pulmonary complications and consequently they must be warmly clad with woolens and a woolen bandage applied to the abdomen. The clothing must fit loosely in order not to restrict the respiratory movements or the movement of the limbs.

In the anemic cases Yeo recommends the syrup of the iodid or citrate of iron and ammonia. Arsenic is also of service in these cases. If nervous complications arise the following mixture may be given as required:

℞ Sodii bromidi ..... gr. xv-xx 1.-1.30
Chloralis hydratis ..... gr. viii 50
Aq. cinnamomi ..... ℥i 30

M. Sig.: One teaspoonful as necessary.

The following combinations, as employed by Billroth, are recommended by the author for the constitutional treatment:

℞ Ferri carb.
Ferri lactatis
Calcii phos.
Sacchari lactis, ää ..... ℥iss 6

M. chart. No. lx. Sig.: One powder two or three times a day; or:

℞ Olei morrhuæ
Syr. calcis lactophos.
Liq. calcis, ää ..... m. xv 1

Sig.: At one dose; to be repeated three times a day—for a child of one year.

The following, containing phosphorus, are frequently prescribed:

℞ Phosphori ..... gr. i 06
Alcoholis ..... ℥v 20
Spts. menth. pip. ..... m. x 65
Glycerini q. s. ad ..... ℥ii 60

M. Six to twelve drops three times daily after meals; or:

℞ Phosphori ..... gr. 1/7 0085
Saccharin ..... gr. lxxv 5
Ess. limonis ..... m. ii 12
Ol. morrhuæ ..... ℥iiiss 105

M. Sig.: One teaspoonful three times a day in milk.

Medicolegal.

Alteration of Unauthorized Temporary License.—In the case of Volp vs. Saylor and others, State Board of Medical Examiners, it appeared that, in 1891, the Oregon State Board of Medical Examiners issued what was intended to be a temporary license only, certifying that Heinrich Volp, having passed a satisfactory examination in medicine and surgery, was authorized to practice same until a certain date, or, in other words, for six months. The secretary testified that the board had adopted the practice of giving temporary permits so that the applicant, if unsuccessful, could still earn a livelihood, with the understanding that he again submit himself for an examination at the expiration of the period fixed in the certificate. On the trial, however, it was stipulated that the board had no power to issue a temporary permit or license. But because the board of examiners adopted an irregular and unauthorized practice, and issued a permit or license, using the form of a regular certificate, but limiting its duration, the Supreme Court of Oregon does not consider that it followed, as was argued, that such board issued and delivered an ordinary or regular license, unlimited in its scope, and therefore valid. It says that to construe such an act as the board's into absolute regularity, and the permit of six months' duration into a license regular in form and unrestricted as to the time of the operation, would be to contort an irregular and void proceeding into one of due regularity and perfect legal efficacy. The erasure of that portion of the certificate intended as a limitation could not, by any rule of ethics or practice, either in law or morals, operate to admit the holder as a regular practitioner of medicine and surgery. The fact that it was certified that he had passed a satisfactory examination could not aid him, as the certificate by its very terms limited the time the board intended he should exercise the privilege accorded, and the suggestion that the board was precluded

from showing that the examination was unsatisfactory was without relevancy in the argument. He may have been entitled to a full license on such a showing, but he did not get it, and his act of changing the certificate received could not operate as an act of the board granting that which he applied for. Nor does the court accede to the contention that his license could be revoked except for unprofessional or dishonorable conduct, and that his act in changing the certificate, and thus procuring his name to be entered in the register, did not come within the meaning of such terms as declared by the act of 1895, which provided that all persons who had been regularly licensed under theretofore existing laws of the state, and had complied with the provisions thereof, should be taken and considered as licensed physicians under this act. It says that this proceeded on the assumption that he was regularly licensed, and that he was then entitled to practice by reason thereof. But he had no such license to revoke. The record he caused to be made gave him none, but it falsely showed that one had been regularly issued to him, and it was to get rid of this record that the board took action. What the board really did was to vacate a void record. Furthermore, the court holds that, where the record is admittedly fraudulent, as it was here, a court of justice will not intercede to reinstate it, even though it was vacated without notice to the party affected by the order. If the court could see that the party had been deprived of any substantial right without an opportunity to be heard, the case would be different; but he was insisting on a privilege vouchsafed to him by a license or record which he conceded to have been obtained through his own wilful and fraudulent act, and the court would not thus intercede to permit him to enjoy the fruits of his own wrong.

Compulsory Vaccination and Revaccination Law Upheld.—The Supreme Judicial Court of Massachusetts holds constitutional, in Commonwealth vs. Pear, Section 137 of Chapter 75 of the Revised Laws of that state, which provides that "The board of health of a city or town, if in its discretion it is necessary for the public health or safety, shall require and enforce the vaccination and revaccination of all of the inhabitants thereof, and shall provide them with the means of free vaccination. Whoever, being over 21 years of age and not under guardianship, refuses or neglects to comply with such requirement, shall forefeit five dollars." It says, among other things, that, so far as it is aware, all courts that have considered the subject have recognized the right of the legislature to enact laws founded on the theory that vaccination is important as a preventive of smallpox, and to impose restrictions, during an epidemic, on persons who have not been vaccinated. There are some cases in which it has been held that the statute did not go far enough to authorize the restrictions which the authorities sought to impose. But these assume that the legislature may interfere with the exercise of the ordinary rights of individuals if they are not vaccinated when smallpox is prevalent. Legislation requiring vaccination, or authorizing some local board to require it, as a prerequisite to attendance at school, has been sustained whenever called in question. Legislation requiring vaccination is mentioned by the Supreme Court of the United States as a proper exercise of the police power in Lawton vs. Steele, 152 U. S. 133-136. Statutes substantially the same as the one in this case have been sustained, after careful consideration, by the highest courts of Georgia and North Carolina. The views of the party here refusing to be vaccinated could not affect the validity of the statute, nor entitle him to be excepted from its provisions. He made some eleven offers of proof of alleged injurious or dangerous effects of vaccination, but the only competent evidence that could be presented to prove these propositions was the testimony of experts giving their opinions. It would not have been competent to introduce the medical history of individual cases. Assuming that medical experts could have been found who would have testified in support of these propositions, and that it had become the duty of the judge to instruct the jury as to whether or not the statute was constitutional, he would have been obliged to consider the evidence in connection with facts of common knowledge, which the court will always regard in passing on the constitutionality of a statute. He would have considered this testimony of experts in connection with the facts that for nearly a century most of the members of the medical profession have regarded vaccination, repeated after intervals, as a preventive of smallpox; that, while they have recognized the possibility of injury to an individual from carelessness in the performance of it, or even in a conceivable case without carelessness, they generally have considered the risk of such an injury too small to be seriously weighed as against the benefits coming from the discreet and proper use of the preventive; and that not only the medical profession and the people generally have for a long time entertained these opinions, but legislatures and courts have acted on them with general unanimity. If this party had been permitted to introduce such expert testimony as he had in support of these several propositions it could not have changed the result. It would not have justified the court in holding that the legislature had transcended its power in enacting this statute on their judgment of what the welfare of the people demanded. The theoretical possibility of an injury in an individual case as a result of its enforcement does not show that, as a whole, it is unreasonable. The application of a good law to an exceptional case may work hardship. Naturally, there would be regard to temporary conditions, if they became important, as to the time and manner of its enforcement. If a person should deem it important that vaccination should not be performed in his case, and the authorities should think otherwise, it is not in their power to vaccinate him by force, and the worst that could happen to him under the statute would be the payment of the penalty of $5. The contention that the statute works unequally, in making an exception of minors and persons under guardianship, is not well founded. It only limits the liability to a penalty for neglect of the requirement to persons who have a right to control their own conduct.

Current Medical Literature.

Titles marked with an asterisk (*) are abstracted below.

New York Medical Journal.

May 16.

1 *The Duties and Responsibilities of Trustees of Public Medical Institutions. W. W. Keen.
2 *Cancer and Immunity. A. F. Jonas.
3 *The Relation of Cholelithiasis to Acute Pancreatitis. Joseph Wiener, Jr.
4 An Unusually Long (twenty weeks) Case of Relapsing Typhoid Fever. W. L. Stowell.

1, 5, 8, 12, 24. These articles are identical.

2. Appeared in THE JOURNAL of May 9, p. 1277.

3. **Cholelithiasis and Pancreatitis.**—The relation of these two conditions has only been lately a matter of consideration by the profession, and yet there are good reasons to assume its possibility. The pancreatic and common bile ducts have a common opening into the duodenum and the obstruction of the one may also be the obstruction of the other. Wiener discusses the subject and the literature, reporting a case of his own. He says from a careful study of 33 cases reported of pancreatitis associated with cholelithiasis, we are forced to the conclusion that in many there is a relationship between the two conditions. In a few cases the autopsy showed the duct of Wirsung occluded by gallstones. In one case, that of Dieckhoff, a biliary calculus had actually found its way into the pancreatic duct. Other cases point in the same way, and it is fair to assume, he holds, that in some instances where the offending calculus was not found, it had already escaped into the bowel. Fortunately the anatomic conditions are often unfavorable to occlusion of the duct of Wirsung or we would have many more cases of acute pancreatitis from gallstones. The author's case was saved, not because of an early correct diagnosis, but because of an early exploratory incision, and this, he thinks, is the crux of the whole problem in the prevention of these conditions.

Boston Medical and Surgical Journal.

May 14.

5 The Duties and Responsibilities of Trustees of Public Medical Institutions. W. W. Keen.
6 *Social Conditions in America in Their Relation to Medical Progress and Disease. J. M. Anders.
7 *Differential Diagnosis in Diseases of the Gall Bladder and Ducts. George E. Brewer.

6. This article appeared in THE JOURNAL of May 9, p. 1284.

7. **Diseases of the Gall Bladder and Ducts.**—Brewer goes into detail as to the significance of various symptoms of gall-bladder and gall-duct diseases. He remarks in conclusion that it is well to remember the following facts derived from the best authorities:

Gallstones are rarely found in young subjects; according to Schroeder only 2.4 per cent. occur in individuals under 20 years of age. The same author states that 20 per cent. of all female, 44 per cent. of all male autopsies show the presence of calculi in the gall bladder. Ninety per cent. of the women have borne children. Gallstones have been known to escape from the biliary passages into the alimentary canal by ulcerative processes, and to produce intestinal obstruction without giving rise to pain or any other symptom until the evidences of bowel obstruction appear.

In common duct stone the calculus is found in 67 per cent. of the cases in the duodenal extremity, in 15 per cent. in the hepatic extremity, and in 18 per cent. in the middle portion of the duct (Robson).

One-half of all cases of common duct obstruction only are due to stone (Robson).

In 70 per cent. of the cases of obstruction located in the neck of the gall bladder the pain is referred to the right subscapular region, in 10 per cent. to the left subscapular region, and in 20 per cent. to the precordia, sternum, right subclavicular region or neck (Murphy).

The temperature chart in biliary infection is characterized by angularity rather than by curves, and by more or less prolonged periods of complete intermission (Murphy).

Jaundice is absent in from 80 to 90 per cent. of all operative cases of gall bladder or duct disease.

Jaundice preceded by colic is practically always due to stone; jaundice without pain is practically always due to inflammation or new growths of the ducts, or to outside pressure.

The bile in all cases of cholelithiasis should be regarded and treated as an infected secretion.

During the presence of a calculous jaundice, the sudden occurrence of acute epigastric pain, muscular rigidity, nausea, vomiting and collapse, without leucocytosis, strongly suggests acute pancreatitis occasioned by the presence of a stone in the diverticulum of Vater (Murphy).

Medical News, New York.

May 16.

8 The Duties and Responsibilities of Trustees of Public Medical Institutions. W. W. Keen.
9 *Fracture at the Base of the Skull—Neurological and Medico-legal Considerations. Pearce Bailey.
10 *Notes on Blood Pressure in Man. (To be continued.) S. S. Goldwater.
11 Some Recent Advances in Medical Therapeutics. Thomas E. Satterthwaite.

9. **Fracture at the Base of the Skull.**—The presidential address before the New York Neurological Society by Bailey reviews the symptoms and outcome of fractures of the basis cranii. He goes over the various clinical symptoms relating to the special cranial nerves, finding pupillary abnormalities one of the commonest symptoms, injury of the motor nerves of the eye frequent and that of the facial nerve most frequent of all. Conditions of paralysis, changes of reflexes, mental symptoms, etc., are also remarked on. The immediate prognosis is bad; fatal results may be looked for in more than one-half the cases. The ultimate prognosis, if not immediately mortal, is somewhat better. He thinks the mental condition in the majority of cases is restored. In some cases there is a certain amount of irritability and change of character and in a few cases permanent mental impairment. There are but a comparatively small proportion of cases in asylums with a record of fracture of the base of the skull as a cause, and he says it seems to be an entirely unimportant cause of mental disease. Fractures of the base can hardly be compared with those of the vault with direct involvement of the cortex in the latter. The physical symptoms also seem to be largely relieved, if not cured, in many cases where death does not immediately follow the injury.

10. **Blood Pressure.**—Goldwater has examined the question of blood pressure in man, finding it varying from 250 or 235 mm. as the extreme to only about 40 mm. as the lowest. He discusses at length the conditions of blood pressure under special conditions, like pregnancy, the puerperal state, as producing changes in the blood pressure and the effect of mental effort. The fact that blood pressure appears to be raised in insanity during the periods of depression is discussed, emphasizing a further study of the relations existing in healthy individuals between depressing emotions and intravascular tension.

Philadelphia Medical Journal.

May 16.

12 The Duties and Responsibilities of Trustees of Public Medical Institutions. W. W. Keen.
13 *Tumors of the Breast. Jonathan Hutchinson, Jr.
14 A Case of Femoral Thrombosis in Acute Croupous Pneumonia. D. J. Milton Miller.
15 *Tetanus. A Study of 57 Cases from the Records of the Pennsylvania Hospital. George W. Norris.
16 Gastric Carcinoma Associated with Hyperchlorhydria and with Attacks of Stupor. Norman B. Gwyn.
17 Foreign Bodies in the Bladder. Swithin Chandler.

13. **Tumors of the Breast.**—Hutchinson first notices Paget's eczema, in regard to which he remarks that the supposed parasites are, in his opinion, only the results of epithelial degeneration. As regards cysts in the breast, 80 per cent. of them are true retention cysts with milky contents, and the majority of cases require but simple tapping. In the remaining 20 per cent. the cysts are multiple and due to fibrous degeneration of the organ and, unlike retention cysts, situated usually in the periphery or circumference of the breast. He recommends an exploratory incision in case of retention cyst simulating cancer, holding that it will not do harm. Of course, the knife should be laid aside and disinfected after doing the incision. In fact, he says the surgeon should invariably make a cut into the substance of any supposed cancer. As regards excision of adenomata and cysts, he offers the following practical point, that in sewing up the incisions the stitches must be carried down to the bottom of the wound on either side, or else a bloody cavity will be very apt to form and delay healing as well as alarm the patient. The rare involution cysts, especially of the periphery, he thinks, in most cases would be better left alone. The most important point in differentiating retention cysts from carcinoma is, he holds, adhesion to the skin and its redness and dimpling in the latter. If the disease has long existed, of course there will be retraction of the nipple. Cachexia is the poorest sign of all and the least important. As regards excision of the breast, he says when you wish to obtain primary union you should not carry the incision through the middle of the axilla. Make it not through the center of the axilla, but up over the pectoralis major, right away from the area of the large sebaceous glands. If the scirrhus goes anywhere near the pectoralis major, remove the lower half of that muscle. Whether or not the pectoralis minor should be removed depends on the conditions, but access to the summit of the axilla is perhaps more free if it be excised. Avoid drainage tubes; wounds do not heal so well with them. Never tie the arm to the chest, but always bandage with it away from the side, to avoid subsequent stiffness. As regards the clearing out of the glands which are adherent to the axillary vein, he thinks it is better to dissect them out rather than to cut the vein boldly and tie it some inches higher up. For, by tying the vein, you may have persistent edema of the arm. The mortality of complete operations in his hands has not been over 3 or 4 per cent. His figures agree very well with those of Mr. Butlin at St. Bartholomew's and of Barker of the University College Hospital. The axilla should be cleared in every case, since in three out of four cases we find secondary deposits there. As regards secondary deposits of scirrhus, they are present mostly in the liver and next in the pleura and lungs and last in the pericardium, other breast, peritoneum, etc. The only frequent non-cancerous condition in patients dying from cancer of the breast is pleurisy. Oöphorectomy he considers as practically of very little value. There is no safe time limit for cure; as regards recurrence, he thinks the more experience one has the more one is encouraged to operate.

15. **Tetanus.**—Norris gives an analysis of 57 cases of tetanus from the records of the Pennsylvania Hospital, including all the cases treated there between 1874 and 1903. A curious thing is the complete absence of cases of tetanus between 1886 and 1893 which can not be accounted for. The mortality is largest in the warm months, August, September and October, and least in the colder part of the year, with a total average mortality of 85 per cent. Thus temperature seems to play a part, though the Fourth of July casualties, of course, account for a portion of the hot weather cases. The mortality is greatest in cases from wounds of the head and neck, 100 per cent. in the figures here given, and least in cases of the trunk and mixed injuries; there was only one case of injury of the trunk reported followed by tetanus. The heaviest mortality, according to age, was in the very early years and in

V 19

advanced life, nearly 100 per cent. in both, though the figures are small, only 5 of the former and 3 of the latter. The greatest number of fatalities occur in the early part of the disease. It would also appear from the table that the longer the incubation the less the mortality, though, of course, the insufficiency of statistics prevents thorough conclusions. Cases of punctured wound seem to be specially liable to produce the disease, and burns perhaps the least liable. The condition of the urine was noted in only 17 cases, but is interesting from the fact that the average specific gravity was 1.026. No definite relation could be established between the severity of the attack and the outcome of the urine analysis. The first symptoms were usually pain and stiffness in the back of the neck. Fever was present in nearly all of the cases where the temperature was recorded, and steadily increased to the end. Delirium is said to be a common symptom in alcoholic subjects and was recorded eight times. As regards treatment, the symptomatic is credited with 87 per cent. of mortality, carbolic acid treatment, according to the Bacelli method, 7 cases with 85 per cent., and antitoxin with 66 per cent. Though the latter was only employed in three cases, one of them recovered. He concludes his article by saying the following facts should be remembered in connection with the treatment of tetanus:

1. That tetanus toxin is found mainly in the nervous tissues; that, once united with these, antitoxin is powerless in its action on already affected cells.
2. That antitoxin is harmless, but deteriorates rapidly; therefore, it should be procured freshly and administered in continuous and large doses with the hope of immunizing the intact nerve cells.
3. That all cases of wounds in which there is a possibility of tetanic infection should receive prophylactic injections of antitoxin.
4. That local treatment is of great importance, hence the infected area should be excised; when this is impossible, extensive disinfection, preferably with carbolic acid, should be carried out; furthermore, that, as Behring has shown, antitoxin is of benefit locally as well as systemically.
5. That every effort should be made to maintain the nutrition of the patient, for Castronuovo has demonstrated that antitoxin is of no value in tetanic animals which have been starved.

American Medicine, Philadelphia.

May 16.

18 *The Surgical Treatment of Pruritus Vulvæ, with the Report of a Case Cured by Resection of the Genitocrural, Ilioinguinal, Inferior Pudendal and Superficial Perineal Nerves. Barton C. Hirst.
19 *Congenital Dislocation of the Hip: Report of a Bloodless Reposition, Followed by Death, with an Analysis of Twenty-three Cases in Process of Treatment. (To be continued.) H. Augustus Wilson, J. Torrance Rugh and W. M. L. Coplin.
20 Heart Showing Chronic Tuberculosis of the Pericardium, with Involvement of the Myocardium. A. G. Ellis.
21 Sarcoma of the Thumb: Report of Two Cases. William B. Trimble and George Reese Satterlee.
22 *Serious Infection Following Puncture, Laceration or Contusion of the Finger or Toe. Thomas H. Manley.
23 *The Uses and Abuses of the Urethral Sound. J. Henry Dowd.
24 The Duties and Responsibilities of Trustees of Public Medical Institutions. W. W. Keen.

18. Pruritus Vulvae.—Hirst remarks that the treatment of this condition is one of the unsolved problems. Two surgical methods are available: 1. That of exclusion of the affected part as proposed by Schroeder, and the other, resection of the nerve. Hirst discusses the advantages and disadvantages of this method, but while report of a case is stated in the title, his paper does not contain more than a brief mention of one thus relieved. In a footnote it is stated that still another case has been similarly operated on. He offers the following questions as of interest in connection with the subject:

1. Which is the better of the two surgical treatments of pruritus vulvæ, exsection of the affected skin or resection of the sensory nerve supply?
2. What is the best surgical technic for isolating and resecting the sensory nerves supplying the vulva?
3. What has been the permanent result of this operative procedure in the experience of those who have performed it or have had the opportunity of watching cases afterward?
4. If a cure of the pruritus can be expected, is there a likelihood, or has any one clinical evidence to present, of the development of kraurosis vulvæ, and possibly of an associated epithelioma?

19. Congenital Dislocation of the Hip.—The first portion of this article only is included in this issue. The authors tabulate their cases and report certain of them briefly. All thus far reported have been progressing well. They remark on the slight dependence placed by Lorenz in these cases on the *x*-rays, and state that their experience has confirmed the impossibility of relying much on them. One of the most difficult of all the cases was by the radiograph, apparently the most favorable.

22. Infection from Puncture of the Finger or Toe.—Manley calls attention to the large number of cases of serious phlegmonous inflammation occurring from slight punctures of the fingers or toes. These occur far more frequently in the winter and spring seasons and at the time when carbuncle, felon and erysipelas are most common. The difference from erysipelas in these cases is simply the absence of redness and metastatic invasion. Lymphangitis is always well pronounced, but the real mischief only begins when the vascular supply is compromised. Vasomotor paralysis is always an early phenomenon. Whatever the termination the pathologic feature is slow to yield. He warns against the use of narcotics in these cases and insists on the importance of local treatment. Nothing less than the free use of the scalpel will suffice. The limb must be freely exsanguinated in the areas of greatest distention. The tissues must be disinfected. Here he insists on the importance of the use of the Powell-Phelps mode of directly charging the tissues with pure carbolic acid, followed by neutralization with strong alcohol. After a surgical procedure opium is useful as well as other stimulants. When the temperature falls small doses of calomel, quinin and bitter tonics may be given. Recovery is likely to be slow, more or less functional embarrassment and stiffness remain for some time and in some cases have been permanent.

23. The Urethral Sound.—The following general rules for the use of the steel sound are given by Dowd:

1. When the urethra has been involved by inflammation, specific, or otherwise, no instrument, and especially the steel sound, should be used until the urine is clear excepting for shreds or floating particles. (Prostatic plugs.)
2. The urethra should in all cases be flushed with an antiseptic solution (formaldehyd, 1/3000) before the passage of any instrument. Following its withdrawal an astringent should be used, preferably silver nitrate 1/10000.
3. A sound should never be passed for at least three months following acute gonorrheal infection, and then only when the urine is as in No. 1.
4. When dilation of a stricture will answer, sounds are increased in size according to the tissue forming the pathologic growth and its location. True gonorrheal strictures of the deep urethra may be dilated five or six numbers at each sitting, up to 18 or 20 F.; following this, two or three numbers should be the rule.
5. In case of traumatic or gonorrheal stricture in the pendulous urethra, or when the sound is followed by marked irritation, etc., cutting gives the best result.
6. When the contraction seems not to dilate without too much force, weekly treatments being followed by considerable irritation, making the interval 10 to 14 days is generally followed by the most gratifying results.
7. Stricture can be permanently eradicated. This occurs when, after dilating the circular muscles of the canal to their fullest extent, without rupturing, no bloody string is found in the washings after four to six dilations which have varied from one to four months apart.

Medical Record, New York.

May 16.

25 *Uremia and Its Treatment. W. H. Thomson.
26 *A Study of the Rectum, with Reference to the Causative Factors of Obstipation (with Demonstrations). Louis J. Hirschman.
27 *Is the Gall Bladder as Useless as It Is Dangerous? Woods Hutchinson.
28 Ocular Symptomatology in Diagnosis. Henry B. Hollen.
29 Hydrocephalus Complicating Labor. G. W. Squires.
30 Syphilis Transmitted by Dental Forceps. S. S. Cartwright.
31 Fatal Case of Poisoning by Chlorate of Potassium. A. R. Ellis.

25. Uremia.—The peculiarities of uremia and its treatment are noticed at some length by Thomson, who remarks that there must be a variety of distinct toxemias included under this condition as commonly understood. He thinks there is one special poison which is quite common and which is generated in the kidney, and acts very much like the secretion of the suprarenal gland, producing high blood tension. For special cases he believes aconite is a vasodilator par excellence. He would recommend its systematic use as long as the pulse remains both tense and frequent, so as to lessen the strain on the heart, check the progress of vascular disease and increase defective urea excretion. In cases, however, where chronic endo-arteritis has co-existed with obliterated arteries, we can not safely utilize this drug. We should hesitate to employ it in old people, though it sometimes may be used where the pulse is quiet and there is exacerbation of chronic renal trouble. In puerperal eclampsia he says we have a remarkable illustration of such a poison being rapidly formed and giving rise to extreme high tension, but here complicated with rapid and powerful heart action. In this case the speediest and best vasodilator would be venesection, but if that be objected to,

then veratrum viride should be given in large doses according to the effect on the tension of the pulse. Aconite is too slow in such cases. He does not incline much to the thyroid theory of this condition under such circumstances. In cases of organic disease of the kidney he remarks that the subject is extensive and he can only notice a few features. In scarlatinal nephritis the best prophylactic, in his opinion, not only against nephritis, but against its running a bad course, is to begin at once with a laxative dose of calomel, repeating it every night until the tongue desquamates. We are to look to the condition of the kidneys and almost universally the first danger signal is not albuminuria, but diminution in the quantity of urine and a fall in its specific gravity. When nephritis has developed and is advancing we should use the rectal douche with normal saline solution at 115 F., allowing at least two gallons of hot saline to run in and out at a time, the best instrument for this being Kemp's rectal irrigator. Certain special points in chronic interstitial nephritis are mentioned. Many people go along without indications of renal disease until uremic convulsions or other symptoms announce its existence. He believes in the great majority of such cases a new element, septic invasion of the kidneys by bacteria, especially by the colon bacillus, has entered into the case. He also remarks that he specially dreads cholera morbus in elderly persons, and should always investigate the kidneys in such cases. The prognosis in any case of chronic interstitial nephritis must always be uncertain because we can never tell how much good kidney there may be left. The diet is a matter of some importance and he would exclude any full meat diet. He remarks particularly on the difference in proteid metabolism between the day and night hours. The patients are apt to be worse in the morning, and in cases with melancholia, migraine or Graves' disease with this particular symptom he shuts off red meats. We should bear in mind these particulars when we aim to regulate a man's life who has a high tension pulse and rigid arteries. The chemistry of these night generated poisons is yet to be worked out, but he thinks they have much to do with the changes in the alimentary canal, connected with the nitrogenous elements of food, and every person with cirrhosed kidneys should be enjoined, like an asthmatic, not to eat heartily after midday. One of the best remedies for auto-infection and a prophylactic against the dangers of chronic interstitial nephritis, is life in the open air. A mild climate in winter is needed by such a patient as much as by a bronchitic or phthisical patient. Intestinal antiseptics, especially minute doses of bichlorid of mercury or sodium iodid for prolonged periods, are advised. In conclusion, he points out the differences between interstitial and parenchymatous nephritis and the different problems of treatment in the two cases. He hopes that Edebohl's surgical method will have good results. Last of all, he remarks in regard to albuminuria, that it is only a symptom, the significance of which greatly varies.

26. **Constipation.**—Hirschman's article is a description of the Houston valves with the operation for their treatment. He thinks these valves are the cause of a very large proportion of the cases of constipation, and it should be the duty of every one who has to treat any condition of the rectum to thoroughly examine and find whether these valves are hypertrophied or interfering with the normal function.

27. **The Gall Bladder.**—The question as to the value of the gall bladder to the organism is remarked on by Hutchinson. He looks at it from the point of view of its comparative anatomy and its mechanical action and the variations we find in its condition. He remarks, to sum up, that:

> The gall bladder is a nearly functionless organ, inadequate in size to act as a reservoir of any value for the bile, inadequate in muscular power, and in mechanical position, to exercise any important effect on the pressure of the bile flow, entirely absent in many species without interfering with the processes of digestion or the vital functions in any way, capable of removal from a species in which it is normally present without noticeable injury, and chiefly notable as a settling basin for the formation of gall-stones, a suitable harbor for the multiplication of pathogenic bacteria, or for the assumption of pathogenic properties by non-pathogenic forms. In short, it seems a source of danger at least double any possible usefulness which it may possess.

St. Louis Medical Review.

May 9.

32 *Medical Education in the United States. Frank Billings.
33 *Cancer and Immunity. A. F. Jonas.

May 16.

34 A Case of Edematous, Intraligamentous Fibromyoma Following a Pelvic Exudate of Puerperal Origin—Operation. C. Lester Hall.

32, 33. These articles appeared in THE JOURNAL of May 9, on pp. 1271-1277 respectively.

Cincinnati Lancet-Clinic.

May 16.

35 Report of a Few Mastoid Cases. L. R. Culbertson.
36 Medical Sciolism vs. Medical Science. Bross S. Horne.
37 Surgery of Prostate, Pancreas, Diaphragm and Spleen. (Continued.) B. Merrill Ricketts.

Medical Age, Detroit, Mich.

May 10.

38 Prevention of Tuberculosis in Private Practice. J. W. McLaughlin.
39 The Criminal Insane. G. H. Moody.
40 The Canine Red Cross Corps. W. Th. Parker.

Virginia Medical Semi-Monthly, Richmond.

May 8.

41 *Nitrous Oxide-Ether Anesthesia. Charles S. White.
42 *Foreign Bodies in the Ear and Nose, with Constitutional Symptoms. R. L. Goodbred.
43 Two Cases of Osteitis of Os Calcis. W. H. Bramblett.
44 Some Observations in European Hospitals, with Special Advantages for Genito-Urinary, Skin and Rectal Study. Eaton K. McNeil.
45 Case of Ectopic Gestation, with Diagnosis and Clinical History. E. W. Peery.
46 Laceration of the Perineum Incident to Pregnancy. Charles R. Robins.
47 Prevention and Treatment of Lacerations of the Perineum. Marvin E. Nuckols.
48 Treatment of Carbolic Acid Poisoning. John R. Atwell.
49 Undetermined Abdominal Cyst, Containing Pus, Followed by Jaundice.
50 Biliary Fistula—Operation—Recovery. W. W. Rangely.
51 Rupture of Carotid Artery—Successfully Ligated. R. J. Preston.

41. **Nitrous Oxid and Ether Anesthesia.**—White advocates the preliminary use of nitrous oxid where general anesthesia is required. It is the safest anesthetic, diminishes the vomiting, hastens reaction and diminishes shock. The apparatus is bulky, which is a disadvantage, and the original cost is an item which has to be taken into account. He recommends, however, the method for more general use for the reasons given. While he does not believe it will supersede chloroform, it will be instrumental in reducing the deaths during anesthesia with which we are altogether too familiar.

42. **Foreign Bodies in the Ear.**—Goodbred calls attention to the constitutional symptoms following the introduction of foreign bodies into the ear and varying very much in different cases. In one case which he reports typhoid fever was diagnosed, but on removal of a pea which had been inserted high up in the nostril the condition was completely relieved. Another case almost like this was followed by like relief after removal of the foreign body. He does not say why the presence of a foreign body in the ear or nose should cause erysipelas in one patient, catarrh in another, fever resembling typhoid in another and in others no symptoms at all, but he calls the attention of the profession to these facts.

Medical Fortnightly, St. Louis.

May 11.

51 *The Treatment of Obesity. A. E. Taussig.
52 A Report of a Case of Unusual Recurrent Somnambulism. Wm. Shirmer Barker.
53 History of a Case of Bladder Exstrophy. T. C. Witherspoon.

51. **Obesity.**—Taussig sums up the treatment of obesity in reducing the income below the outgo. It is a matter of indifference, he says, whether the proteids, carbohydrates or fats are restricted, but the diet must be carefully selected and the number of calories estimated. From easily accessible tables, the normal weight of the individual corresponding to height, sex and race can be ascertained and the diet restricted accordingly. The restriction of water as well as a fat, rich diet represent merely technical aids and are sometimes of service and often not. Hydrotherapeutic procedures, especially with properly regulated exercise, increase considerably the combustion of body fat. Only in exceptional cases would he use thyroid preparations, and then in small doses where a rigid diet is poorly borne or where weak circulation or other conditions prevent a sufficient increase in exercise. Alcohol should be entirely excluded from the dietary of the obese. It is con-

sumed in the tissues instead of fat, which is thereby left over to accumulate in the body.

Cleveland Medical Journal.
May.

54 *Pregnancy and Labor Following Nephrectomy. J. F. Baldwin.
55 *On the Relation of Age, Sex and Conjugal Condition to Death from Typhoid Fever. George W. Moorehouse.
56 Normal Saline Solution Before, During and After Abdominal Operations. William H. Humiston.
57 Pyothorax. O. T. Maynard.
58 A Case of Pemphigus Neonatorum Associated with a General Infection by the Staphylococcus Pyogenes. J. C. Miller.

54. Pregnancy Following Nephrectomy.—Pregnancy after nephrectomy has been very rarely observed. Baldwin was able to find but two cases besides the one he reports himself. It would naturally be supposed, as the author remarks, that when the work of two kidneys is being performed by one a patient would suffer more from the effects of pregnancy than ordinarily. He reports two cases of his own observation, in both of which there was a successful outcome and apparently good health following, though in one case the patient died of typhoid within a year. These two cases, together with the three in Bovée's report, while not numerous enough for generalization, would seem to indicate that the prognosis of pregnancy after nephrectomy is by no means unfavorable.

55. Typhoid Fever.—Moorehouse has studied the mortality statistics of typhoid in Cleveland for the thirteen years from 1890 to 1903, and finds that it furnished 3 per cent. of the total deaths; 19 per cent. of all tuberculous deaths occur between the years of 20 and 25; 36 per cent. between 20 and 30, and 50 per cent. between 18.5 and 35.4 years. The proportion of deaths from typhoid fever in total mortality was 1.8 per cent. in males, which is rather in excess of the females, being 58.1 per cent. of the total typhoid mortality. In proportion to the total, the greatest number of deaths both for males and females is found in the five-year period between the age of 20 and 25 years. In this respect the mortality of typhoid fever differs essentially from that of tuberculosis, in which the highest mortality is past middle life. There is a notable decrease in the percentage of typhoid deaths in married individuals as compared with that in tuberculosis. The percentage excess of married over single mortalities in tuberculosis is four times that found in typhoid fever, from which Moorehouse concludes that tuberculosis frequently delays and prevents marriages. He finds presumably no relation between the conjugal condition and death from typhoid fever unless it be a moderate increase in liability to infection on the part of the unmarried, and this, if it exists, is thought to bear equally on the two sexes.

Providence Medical Journal.
May.

59 *Cases Illustrating the Value of Bacteriological Investigation of the Conjunctival Sac. F. T. Rogers.
60 A Glimpse of Degeneracy. George F. Keene.
61 The Bubonic Plague. William B. Cutts.
62 A Case of Antepartum Hour-glass Contraction of the Uterus. Daniel S. Latham.
63 A Case of Hemopericardium. W. E. Wilson.

59. Conjunctival Bacteriology.—Several cases are reported by Rogers which he thinks illustrate the danger of operations on the eye without previously ascertaining the conjunctival bacteriology. He believes that examination of the conjunctival sac is of value to determine if operative procedures can be instituted with safety, and to determine certain etiologic factors that can be of great value in the prophylaxis, and are of equal service in possible malpractice suits.

Journal of Medical Research, Boston.
May.

64 The Toxicity of Tetra-Phosphorus Tri-sulfid—A Preliminary Report. A. E. Thayer and C. G. L. Wolf.
65 A Case of Multiple Fibroma (Fibro-neuroma) of the Nerves of the Lower Extremities, with Diffuse Enlargement of the Sciatics—Complicating Sarcoma and Metastases in the Lungs. John H. Larkin.
66 A Case of Septicemic Glanders in the Human Subject. Warren Coleman and James Ewing.
67 The Formation of Hemolymph Glands from Adipose Tissue in Man. D. J. McCarthy.
68 *The Vitality of Bacteria from the Throats of Scarlet Fever Patients, with Special Study of Streptococci. George H. Weaver.
69 On the Plurality of Cytolysins in Normal Blood Sera. Simon Flexner and Hideyo Noguchi.
70 The Agglutination Affinities of Related Bacteria Parasitic in Different Hosts. Theobald Smith and Arthur L. Reagh.
71 *Actinomycosis of the Central Nervous System, with the Report of a Case Due to an Unidentified Member of the Actinomyces Group. William T. Howard, Jr.
72 An Example of a Proposed Arrangement of Specimens of a Single Structure for Museums. Thomas Dwight.
73 The Adrenal Gland and Its Active Principle in Their Relations to Cytolysins and Antitoxin Production. A. C. Abbott.
74 Enzymes in Tumors. B. H. Buxton.
75 A Preliminary Communication on the Etiology of Variola. William T. Councilman, George Burgess Magrath and Walter R. Brinckerhoff.

68. The Vitality of Bacteria.—Weaver has investigated the throats of scarlet fever patients with the idea of studying the vitality of the streptococcus. His conclusions are given as follows:

1. Streptococci are almost always, if not constantly, present in the throat in cases of scarlatina. In the early stages they are usually in very large numbers, becoming less numerous as the disease progresses. 2. The streptococci in the throat of scarlatina patients resist drying as long as the other bacteria usually present, and they often outlive all other forms, being alive as long as ninety days after the material is collected. 3. These streptococci remain alive for a long time in milk. 4. A small amount of sugar in nutrient media increases their value for the cultivation of streptococci. 5. Streptococci from scarlatinal anginas are not different from streptococci from other sources so far as cultural and morphologic peculiarities are concerned.

71. Actinomycosis of the Central Nervous System.—Howard reports a case and reviews the literature. He finds the condition rare, only 5 primary cases, including one here reported by the author, and 13 secondary cases have been published. It usually affects males in the prime of life; only two cases in females have been reported. Of the primary, 3 were reported as instances of streptothrix infection, and only one was regarded as a typical actinomycosis. Of the 13 secondary cases, 8 were regarded as typical actinomycoses, 2 as probable and 2 as cladothrix and 1 as streptothrix infection. All the primary cases with the exception of one were acute, while of the secondary the lesions were recent and usually the cause of death. In 2 each of primary and secondary cases the organisms were cultivated. No mention is made of any attempt to test the acid resisting powers. Actinomycotic granules were noticed in several and in one there were multiple nodular masses instead of abscesses, and in one other there was a firm mass the size of a hazelnut in the third ventricle and in the foramen of Monro. Primary lesions in secondary cases were usually in the lungs and bronchial glands. In one case the actinomycotic process extended directly through the skull to the meninges and brain. Howard remarks that in the present state of our knowledge all the processes caused by micro-organisms, having a mycelium of branching, interlacing and sometimes radiating threads are to be considered as actinomycosis, and that organisms with the above characteristics, whether or not they form "drusen" and clubbed hyphæ in the tissues, are to be regarded as actinomyces. A satisfactory classification is at present impossible, and it seems doubtful to him whether it is advisable to consider tuberculosis as an actinomycosis. There are two types of actinomyces, the acid-resisting, including the *Bacillus tuberculosis*, and the other, non-acid-resisting or acid-bleaching. Typical tuberculosis is always caused by the prominent member of the former, and typical actinomycosis by the prominent member of the latter group. It is better, he says, with Lehmann and Neumann, to use the term "actinomycetes" for the large number of organisms of the latter group, which were present in the case reported.

Archives of Pediatrics, New York.
May.

76 *Congenital Tumors of the Kidney, with a Report of Two Cases. Lawrence W. Strong.
77 *The Occurrence and Mortality of Typhoid Fever in Infants and Children. Henry Koplik.
78 *The Etiology of Endocarditis in Childhood. Sanford Blum.
79 A Case of Self-induced Cystitis Due to the Colon Bacillus. I. Leopold and I. Valentine Levi.
80 *Inversion in the Treatment of Acute Pulmonary Edema in Young Children, with Report of a Case. Thomas S. Southworth.
81 Congenital Hypertrophic Stenosis of the Pylorus. H. Beardsley.

76. Congenital Tumors of the Kidney.—From a study of these tumors, and of their literature, etc., Strong concludes as to their embryonic origin. The term carcinoma can not be applied to them as the adenomatous type is evident, and as the epithelial elements do not take origin from the developed glands of the kidney. Histologic comparison shows that these

tumors resemble the embryonic Wolffian body. There is a continuous system of tubules and their derivative cell masses throughout the tumor. The cell masses are derived from the tubules by retrograde metamorphosis. Histologic characteristics vary with the age of the part; the pelvic region is oldest, showing complete differentiation of mesenchyme and mesothelium. The metastases are youngest and show an embryonic condition where all cells are alike. Bilateral tumors are coincident and not metastatic. Metastases may occur through the lymph stream as well as through the blood stream.

77. **Typhoid in Children.**—Koplik reviews the records and statistics of typhoid in children, remarking that in the newborn it runs an atypical course, the classic symptoms being absent. Its infrequency in children under 2 years of age can be readily explained on external grounds. During the first year and in most of the second year of life infants and young children are fed with food which has been subjected to heat to a greater or less extent. Such children, it must be assumed, become infected either through the food or from contact in some uncleanly way with infectious material. The mortality is probably larger than is generally appreciated. The mortality apparently diminishes after the second year of life, though Koplik thinks this is true only in mild epidemics. As regards perforation, he has himself met with two undoubted cases, one of which was operated on, in a series of 100 cases. The heart, though undoubtedly affected, did not present the severer forms of myocarditis or endocarditis. These complications seemed to be rarer than in the adult. The mortality, of course, varies according to the severity of the epidemic, but typhoid fever in the new-born is in most cases a fatal infection. Up to two years of age it is uncertain, and statistics are not entirely reliable. From 2 to 10 years the mortality varies according to the severity of the type, sometimes high and then again very low.

78. **Endocarditis in Children.**—The instances of endocarditis and its cause in young children are reviewed from the literature by Blum, who finds that there is a condition of endocarditis that may occur in fetal life. The pathologic changes in these cases include thickening, shortening and agglutination of the valves. It may also create a predisposition to subsequent attacks in children thus affected. Acquired endocarditis is of common occurrence after the fifth year, and frequently in later youth, from rheumatism, scarlet fever, etc. Malignant endocarditis is evidently rare in children. The endocardium, like the tissues, has less power of resistance than in adult life, and especially so if congenital defects exist, which furnish a point of lessened resistance. Children are the chief sufferers from exanthemata, anad endocarditis secondary to this group of diseases is practically limited in its inception to children. About puberty the endocardium may be affected owing to the great demands made on the heart, and, unfortunately, there is a considerable number of cases of congenital endocarditis of the severe grade which never attain adult life. In fact, these severer cases other than those implicating the pulmonic orifice rarely exceed the age of 12. The predisposition to occurrence in rheumatism, etc., is greater in childhood than in adult life. While malignant endocarditis is rare, when it does occur it is usually associated with rheumatism. The child completely escapes from the atheromatous ravages of advanced age, but the influence which depraved systemic conditions in the mother, such as alcoholism, metallic poisoning, etc., may exert on the endocardial structures of the fetus can only be conjectured. That bacterial endocarditis may occur in the embryo he sees no reason to deny.

80. **Inversion in Pulmonary Edema of Young Children.**—Southworth reports a case where this manipulation was quickly applied in a case of sudden pulmonary edema, and was followed immediately by marked relief. After subsequent use of stimulants the child made a rapid recovery. Since a number of cases which had occurred in the same institution and were treated in the same way as regards medication, had succumbed, Southworth is inclined to think that inversion was an active factor in producing the recovery and a life-saving measure. The child was inverted and firm, steady pressure made over the lungs, with stroking pressure over the bronchi toward the head, squeezing out a little frothy fluid.

Chicago Medical Recorder.

May 15.

82 *Hydrophobia; Prevalent in Chicago. Arthur D. Bevan.
83 *The Indications for Operation in Hypertrophy of the Prostate Gland. A. J. Ochsner.
84 Laparotomy Convalescence. Robert W. Hardon.
85 *The Diagnosis of Influenza. Bertram W. Sippy.
86 Concerning the Bacteriology of Influenza. Eldridge Wyncoop.
87 The After-Treatment of Influenza. John S. Perekhan.

82. **Hydrophobia.**—Bevan reviews the symptoms of hydrophobia and calls attention to its present prevalence. Statistics show that hydrophobia, during the last eleven years, caused 91 deaths in Chicago. He is satisfied that this does not represent the actual mortality, as some cases are not recognized or not properly reported. He thinks it is a duty to call the attention of the authorities to the prevalence of hydrophobia in the city of Chicago, and that by proper dog laws radically enforced it would be possible to eradicate the disease.

83. **Prostatic Hypertrophy.**—Ochsner formulates the indications for operative treatment in prostatic hypertrophy as follows:

1. Perineal prostatectomy is indicated in all cases of obstruction due to hypertrophy which can not be relieved for any considerable period of time by hygienic measures and medical treatment. 2. This is especially true in old men past the period of virility because in these cases it is not necessary to preserve the seminal vesicles. 3. In younger patients more persistent efforts should be employed to obtain relief with non-operative treatment and in case of operation the seminal vesicles should be preserved. 4. In the presence of stone of the bladder complicating or resulting from the obstruction due to enlargement of the prostate gland, the latter should be removed and the stone extracted through the perineal wound. 5. The contraindications to the operation are (a) acute infection, (b) advanced nephritis with or without pyelitis, (c) other coexisting conditions of sufficient importance to make any major operation very unsafe. 6. If possible, thorough preparatory treatment should precede the operation. This should consist in hygienic measures, rest in bed, drinking distilled water, irrigation of the bladder and the administration of non-irritating remedies which have a tendency to render the urine sterile. 7. In case the obstruction is complete and catheterization impossible because of the obstruction or on account of the resulting hemorrhage, an immediate operation is indicated. 8. The operation should be performed before patients have advanced to this condition.

He gives a tabulated list of 22 operations with their results, including cases of suprapubic and perineal prostatectomies, castration and vasectomy. From each of these operations there were a number of cases of complete cure. Of the total number 11 were cured, 7 improved and 4 died. All the patients but 2 were over 60.

85. **Diagnosis of Influenza.**—The different forms of influenzal attacks are described by Sippy, and in conclusion he says that a positive diagnosis is only possible by determining the influenza bacillus in various secretions. Aside from the bacteriologic proof, the presence of an epidemic of the disease offers important points in diagnosis, though it is probable that sporadic influenzal infection is not rare. Certain local and general manifestations of the disease have a minor value in the diagnosis, and their importance should not be underrated, as they may lead us to suspect what can be confirmed by bacteriologic proof.

Journal of Nervous and Mental Disease, New York.

May.

88 *The Geographical Distribution of Insanity in the United States. William A. White.
89 *The Changes Found in the Central Nervous System in a Case of Rabies with Acute Mental Disturbance. Charles L. Allen.
90 Psychomotor Hallucination and Double Personality in a Case of Paranoia. William Pickett.

88. **Geographical Distribution of Insanity.**—White finds that insanity is far more prevalent along the eastern coast of the United States and also on the Pacific coast than it is in most other parts, though certain of the central states, like Ohio, Illinois and Missouri, show a large percentage. The cause of this he attributes to the increase in population and the stress of modern civilized life. No hypothesis founded solely on meteorologic or topographical conditions can explain the distribution.

89. **Rabies.**—Allen reports a case with postmortem. He finds that the lesions agree in general with those previously described, but while strongly suggestive in a case with suspicious history, taken alone without the animal inoculation they would hardly justify a positive diagnosis. From a study of the

literature of the subject and this case he concludes that neither the ganglionic changes of Van Gehuchten and Nélis, nor the rabic tubercle of Babes are absolutely characteristic of human rabies, though their presence in a suspicious case may be of considerable diagnostic value. The diagnostic importance of these changes in the dog is not yet settled, but their presence is suggestive and should always be sought for.

Bulletin of the Johns Hopkins Hospital, Baltimore.
May.

91 *On the Mechanism of Absorption of Granular Materials from the Peritoneum. W. G. MacCallum.
92 *On the Occurrence of Diastolic Murmurs without Lesions of the Aortic or Pulmonary Valves. Richard C. Cabot and Edwin A. Locke.
93 The Use of the X-ray in Surgery. E. A. Codman.
94 *Traumatic Pericarditis, Endocarditis and Myocarditis. J. Hall Pleasants.
95 Giant Cell Sarcoma of Bone. Joseph C. Bloodgood.
96 Angioneurotic Erythema and Its Surgical Treatment by Neurectomy. Joseph C. Bloodgood.

91. Absorption of Granular Materials from the Peritoneum.—From a careful study of the conditions, which he reports in full with illustrations, MacCallum concludes that we find no support whatever for the belief that there exists a connection between the peritoneum and lymphatics, nor can we uphold the idea that the peritoneal cavity forms a part of the lymphatic system. Each of these cavities is lined with cells which retain their specificity throughout and nowhere merge into one another or into the adjacent connective tissue cells. Each develops independently, and it is only later that they come into such intimate relationship that the transfer of materials from one to the other is relatively easy. The idea of the complete specificity of the endothelial cells of the lymphatics was expressed also in a previous paper by the author, and has since been confirmed—indeed, one might say proven—by the embryological investigations of Dr. Sabin. And it does not interfere with the truth of these statements, that we find that the individual cells in any of these membranes are separable by adequate forces and that the mechanical violence of the respiratory movements is sufficient to force fine granules between them.

92. Diastolic Murmurs Without Aortic or Pulmonary Lesions.—The summary and conclusions of Cabot and Locke's study are given as follows:

Diastolic murmurs without organic valve lesions are not uncommon in connection with dilatation of the aorta, localized or diffused. One of the cases reported seems to be of this type. 2. When the pleura and pericardium are adherent owing to tuberculosis or other causes, diastolic murmurs are occasionally audible in the precordia. Such murmurs are notably affected by respiration and by position: they are probably due, in most cases, to suction or pulsion exerted by the heart on portions of lung adherent to the pericardium (cardio-respiratory murmurs). 3. In cases of intense anemia, when the red cells are reduced to or below 1,000,000 per cu. mm., one occasionally hears diastolic murmurs not to be explained by permanent dilatation of the aortic ring nor as "cardio-respiratory murmurs," and not due to a diastolic accentuation of a venous hum. The cause of these murmurs is obscure.

94. Cardiac Traumatism.—The part played by traumatism in the production of pericarditis, endocarditis and myocarditis is the subject of Pleasants' rather long article. He reports a case of his own of traumatic pericarditis with autopsy, and reviews other cases from the literature. Traumatic endocarditis is also considered, and a case reported following contusion of the chest without fracture, but with an immediate onset of cardiac symptoms with fever. The development of chronic mitral insufficiency and chronic traumatic endocarditis occurring at varying intervals after traumatism is apparently more frequent. A tabulated statement is given and a number of cases reported of both forms developing into valvular disease. Traumatic myocarditis is represented by four cases taken from the literature, and, as the condition seems rare, a synopsis of reported cases is given. The author concludes that it can hardly be doubted that myocarditis occasionally develops as the result of contusions of the chest. Other effects of trauma on the heart include the alleged dislocation in a case of Stokes, which he thinks was hardly a correct diagnosis. Aneurism and cardiac neuroses are also mentioned.

Annals of Surgery, Philadelphia.
May.

97 *The Surgical Treatment of Facial Paralysis by Nerve Anastomosis. Harvey Cushing.
98 *On the Possibility of Operative Relief of Certain Forms of Facial Paralysis. Levi Jay Hammond.
99 Intracranial Neurectomy. Howard D. Collins.
100 *The Surgery of the Lower Ureter. Hugh H. Young.
101 Contribution to the Subject of Perineal Prostatectomy. Jonathan M. Wainwright.
102 *Ruptured Crucial Ligaments and Their Repair by Operation. A. W. Mayo Robson.
103 *A Case of End-to-end Anastomosis of the Popliteal Artery for Gunshot Injury. Alexander H. Ferguson.
104 The Successful Removal of a Large Enchondroma of the Chest Wall, Involving the Diaphragm. J. C. Reeve, Jr.
105 *Hepatic Syphilis from a Surgical Standpoint. Charles G. Cumston.
106 Chronic Interlobular Pancreatitis. Lewis W. Allen.
107 Tuberculosis of the Femoral, Inguinal and Iliac Lymph Nodes Secondary to Foot Wounds. Charles N. Dowd.
108 *Contribution to the Literature of Old Irreducible Dislocations of the Shoulder Joint. A. F. Jonas.
109 An Os Trigonum Detected by the Roentgen Rays. Henry P. Moseley.
110 An Aspirating Trocar. Edward H. Ochsner.
111 A New Osteoplastic Trephine. W. Barton Hopkins.

97. Nerve Anastomosis in Facial Paralysis.—Cushing reports and illustrates a case of nerve anastomosis of the facial to the spinal accessory similar to those reported by Ballance and Stewart, abstracted in THE JOURNAL of May 23, 1903, p. 1474. The paralysis of the facial muscles is much less noticeable in the condition of rest since the operation, but extensive voluntary motion is only produced with simultaneous movement of the shoulders. Some independent control of special muscle groups in minor movements was regained also. Cushing remarks that the course of these impulses after an anastomosis similar to that described can only be conjectured, and it seems that there are two possible hypotheses:

1. That the cortical centers concerned in shoulder movements (trapezius) and rotation of the head (sterno-cleido-mastoid) may themselves in the course of time be educated by training to coordinate the impulses, which have been sidetracked into the motor area of the facial nerve, so as ultimately to lead to expressional movement.

2. That the cortical centers originally presiding over movements of the face continue to play a part in the co-ordinate action of these muscles, possibly influencing the higher neurones of the *N. accessorius* through the intermediation of connecting tracts in the cortex.

98. Practically the same article appeared in THE JOURNAL of March 28, title 69, p. 874.

100. See abstract in THE JOURNAL, xxxix, p. 1409.

102. Ruptured Crucial Ligaments.—It would appear, as Robson remarks, that a force sufficient to rupture the crucial ligaments of the knee would lead to complete disorganization of the joint, but the case here reported demonstrates not only that the crucial ligaments may be ruptured without serious damage to the joint as a whole, but that their repair by operation is both feasible and hopeful as to ultimate result.

103. Anastomosis of the Popliteal Artery.—The case reported by Ferguson is of interest as being the only one so far as we know of in the literature. Anastomosis was made by the invagination method. The upper end was introduced into the lower for a distance of a quarter of an inch and held there by four retention sutures of fine silk. The free edge of the lower end was sewed around the upper with a fine continuous suture of the same material. Then the temporary gauze ligatures which had been put on were removed and the blood allowed to enter the limb. Pulsation at the ankle was restored at once and the result was in every way favorable. The patient had some difficuty in straightening his limb after operation, owing to the cicatricial contraction which was removed, occasion being taken to examine the artery at the time. Pulsation was present both above and below the seat of the anastomosis.

105. Hepatic Syphilis.—Cumston reports several cases of hepatic syphilis operated on with good results. He disagrees with some authorities who object to operative interference in these cases. He remarks that the essential thing is that the tumor be situated not too deep in the hepatic substance so as to necessitate extensive destruction of the organism and risk the patient's life. Where the gumma is covered only by a thin layer of parenchyma resection is without danger and relatively easy.

108. See abstract in THE JOURNAL of January 10, p. 118.

American Practitioner and News, Louisville, Ky.
February 15.

112 Sarcoma, with Report of a Case. A. David Willmoth.

Denver Medical Times.

May.

113 Movable Right Kidney as a Cause of Pancreatic Diabetes, with Report of Cases Cured by Nephropexy. Sherman T. Brown.
114 Dr. William P. Munn—The Man and Friend. Henry Sewell.
115 Dr. William P. Munn, His Professional Character and His Ideals. J. N. Hall.
116 Some Remarks on Dr. Munn. Leonard Freeman.

Medical Bulletin, Philadelphia.

May.

117 Seborrhea. John V. Shoemaker.
118 An Improvement in the Local Treatment of Diseases of the Throat, Nose and Ear. E. B. Gleason.
119 Practical Experiments of Electrolysis and Its Treatment of Urethral Stricture. Robert Newman.
120 An Effective Treatment of Rheumatism. George A. Hewitt.

Medical and Surgical Monitor, Indianapolis, Ind.

May 15.

121 On the Surgery of the Hypertrophied Prostate. (To be continued.) Bransford Lewis.
122 Some Elements to Be Considered in Urinalysis. Qualitative and Quantitative Determination of Albumen and Sugar. (To be continued.) J. W. Crismond.
123 Acute Peritoneal Infections. J. C. Sexton.
124 The Use of Adrenalin Chloride in Nasal Surgery. J. L. Masters.
125 Handling of Tuberculous Sputum. Walter N. Sharp.
126 Teratology. Report of Case of Sternopagia. T. G. Smith.

Medicine, Detroit, Mich.

May.

127 A Case of Diverticulum of the Esophagus, with Autopsy. Joseph McFarland and John M. Swain.
128 The Race Problem. Charles S. Bacon.
129 Educational Influences and Opportunities of our Civil Courts from a Medical Standpoint. O. R. Will.
130 Survivals of Folk-lore in Medicine. Harriet C. B. Alexander.

Iowa Medical Journal, Des Moines.

May 15.

131 Vital Statistics: Their Value to the Public. F. I. Herriott.
132 The Diagnosis and Treatment of Ectopic Pregnancy. Palmer Findley.
133 Heart Affections and Their Relation to the Respiratory System. A. J. Burge.
134 Report of Two Interesting Cases (Appendicitis with Uterine Adhesions; Cholecystitis). E. E. Dorr.

St. Louis Courier of Medicine.

May.

135 Specimens of Extrauterine Pregnancies. Henry Schwarz.
136 Report of a Case of Spina Bifida (Meningomyelocele). W. L. Johnson. Pathological Report. Carl Fisch.
137 Congenital Aortic Stenosis. F. N. Gordan.
138 Case of Syphilitic Epiphysitis. W. L. Johnson.
139 Specimen of Ectopic Pregnancy. John Y. Brown.

The Post-Graduate, New York.

May.

140 Intravenous Infusion, Indications and Technic, with Demonstrations on the Human. Forbes Hawkes.
141 The Functional Examination of the Ear. John B. Rae.
142 Notes from the Clinics. Nasal Polypi-Asthma—Hay Fever. Bryan D. Sheedy.

Clinical Review, Chicago.

May.

143 The Albuminuria of Pregnancy. William Rittenhouse.
144 Report of a Case of Choroidal Sarcoma. J. Elliott Colburn.
145 Lectures on Gynecology. Franklin H. Martin.
146 Clinical Lectures on the Etiology, Pathology, Diagnosis and Treatment of Tumors. A. H. Levings.

Memphis Medical Monthly.

May.

147 Malarial Nephritis, with Report of Case. William Britt Burns.
148 The Forceps in Obstetric Practice. I. A. McSwain.
149 Some of the Uses and Abuses of Quinin and Calomel. H. X. Richardson.
150 Some Recent Features in Surgical Technic. J. A. Crisler.
151 Report of a Case of Poisoning with a Small Dose of Quinin. M. Goltman.
152 Treatment of Purpura Hemorrhagica. Fred M. Kinsey.
153 Dipsomania. W. W. Hipolite.

Merck's Archives, Philadelphia.

May.

154 The Two Actions of Drugs. W. H. Blake.
155 Clinical Notes on a Few Cases of Tuberculosis. M. E. Chartier.
156 Calomel as a Therapeutic Agent. Fred Schreiman.
157 An Index of Diseases, Alphabetically Arranged, with Their Modern Treatment. (Continued.) G. Bjorkman.

Wisconsin Medical Journal, Milwaukee.

May.

158 Hook-worm Disease and Its Rôle Among the Diseases of America. J. A. Capps.
159 Perforation of Typhoid Ulcer. Pulmonary Tuberculosis, Uremic Coma and Pneumonia. H. A. Hare.
160 Petit Mal. Arthur J. Patek.
161 The Possibilities of Ureteral Catheterization. G. Kollscher.

Medical Times, New York.

May.

162 The Prevention of Infectious Diseases. Thaddeus A. Casey.
163 Recent Advances in Medicine. Henry Taylor.
164 Voice Production from a Laryngologist's Point of View. J. Mount Bleyer.
165 Treatment of Nervous Conditions. C. Williams.
166 Points in the Treatment of Heart Disease. M. McCrary.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London.

May 9.

1 *Therapeutic Inoculations of Bacterial Vaccines. A. E. Wright.
2 *On Exaltation of Bacterial Virulence by Passage in Vitro. E. A. Shaw.
3 Further Observations on the Reaction of Bacillus Pestis in Plague. R. Row.
4 The Use of Antitoxin in the Treatment and Prevention of Diphtheria. Robert D. Rudolf.
5 *Clinical Evidence for a Toxic Factor in Certain Diseases. James Adam.
6 Case of General Pneumococcal Infection, with Few Symptoms. George Parker.
7 Note on the Absence of B. Coli, Etc., from the Normal Oyster. R. Tanner Hewlett.
8 Acute Rheumatism and Sepsis. Joseph A. Arkwright.

1. Bacterial Vaccines.—Wright insists on the importance of the recognition of a negative as well as a positive phase in the immunizing process, that is to say, there is a phase of diminished as well as one of heightened resistance, with an increased base line of immunity. He finds that the inoculation of excessive doses may involve a risk of undue prolongation of the negative phase and thereby hasten the progress of the disease rather than protect the patient. This has been illustrated in some cases, he thinks, in vaccination for smallpox, where patients have been vaccinated just before the attack or during it and their resistance reduced. The inoculation of a series of doses of vaccine in cases where the inoculations were uncontrolled by the blood examinations may involve the production of a cumulative negative phase. The cumulative positive phase, which is a desideratum either in itself or as leading to the maintenance of a high base line of resistance, is achieved only when the successive doses are properly adjusted and the inoculations properly interspaced. The success of serumtherapy in diphtheria and its comparative failure in other diseases is explained by the fact that in the first case we are able to secure the elimination of all negative phase blood and are able to induce in the vicariously inoculated animals a cumulative positive phase of absolutely phenomenal dimensions. In any other disease we have not been able to secure these prerequisites. In patients who, though suffering from localized bacterial invasions, are possessed of a considerable balance of resistance power, it is possible without risk to undertake therapeutic inoculation of bacterial vaccines, provided that the results of these inoculations are controlled by subsequent blood examinations. The power of response of the individual is what the success will depend on and in a particular patient that power of response may fail us. It may also fail in special bacterial invasions. He thinks that it is most likely to be successful in simple staphylococcus infections in the young and otherwise robust. There is a prospect also of certain coli infections being thus controlled.

2. Bacterial Virulence.—Shaw has experimented with cholera spirillum, anthrax and typhoid bacilli to determine the increase of virulence by passage *in vitro* and finds that the minimum lethal dose of anthrax grown for fourteen generations on agar alone was more than four tubes; the minimum lethal dose of anthrax passed through fresh blood serum for fourteen generations was not more than one tube, an increase of virulence fourfold at least, a result attained in the fifth generation and not improved on in the succeeding nine generations. With cholera he finds that successive cultures beginning with a growth which had to be diluted only to the extent of one in five to insure the occurrence of no growth had ended with successive cultures, which had to be diluted to as much as 1 in 1,250 to obtain it. In case of typhoid, the series commenced with a growth which had to be diluted 1 in 250, and ended in one

which required a greater dilution than 1 in 10,000,000 to ensure no new growth, thus showing the increasing power of resistance of these micro-organisms to the bactericidal power of the blood serum used.

5. **The Toxic Factor.**—Adam calls attention to the periodicity of certain diseases, notably asthma in workingmen, which appears most frequently on Sundays and Mondays, and which he accounts for by assuming a toxin produced during the idle period of Sunday without being sufficiently worked off by active exercise. He also notes what is called the Sunday morning disease in horses, which has been particularly noticed in America, as being due to the same cause. They may have, of course, other factors which demand treatment, but the importance of preventing toxin formation by suitable hygiene and the procuring of rapid elimination is obvious.

The Lancet, London.

May 9.

9 Where Memory Sleeps. James F. Goodhart.
10 Treatment of Bubonic Plague by Yersin's Serum, with Observations on its Mode of Action. D. Louis Cairns.
11 A Case of Trans-sacral Removal of an Intussusception with Malignant Growth by a Method Unusual at Present. Arthur E. Baker.
12 *Acute Amaurosis Following Infantile Convulsions. Henry Ashby and Sydney Stephenson.
13 Foreign Body in One of the Main Divisions of the Left Bronchus; Attempted Removal by Posterior Bronchotomy Through the Pleural Cavity. J. Grant Andrew.
14 A Case of Hematosalpinx Due to Tubal Pregnancy Complicated by Torsion of the Pedicle; Operation; Recovery. Frederick J. McCann.
15 *A Note on the Serum Reaction of Tubercle, with Special Reference to the Intimate Nature of Agglutination Reactions Generally and to the Therapeutic Inoculation of the New Tuberculin. A. E. Wright.
16 *A Note on the Position of the Heart in Some Cases of Aortic Aneurism. Hugh Walsham.

12. **Acute Amaurosis After Convulsions.**—Several cases are reported by Ashby and Stephenson of amaurosis occurring in children after convulsions, and they conclude that there is a form occurring in infants and young children which is post-eclamptic and due to anesthesia of the visual centers. It usually follows convulsions due to various causes, generally severe and accompanied by coma. The amaurosis may be associated with aphasia and paresis of hemiplegic distribution; the hemiplegia may be permanent. The amaurosis itself is for the most part transient. It may be that in some cases there is a hemianopsia.

13. **Tubercle Serum Reaction.**—Wright adapts the same general principles elucidated in the paper previously noticed to the therapeutic use of antitubercle serum. Every patient who is submitted to the antituberculous inoculation with the new tuberculin ought to be regularly tested with the serum test to ascertain that he responds correctly. With such a system of test we may be successful in getting a cumulative positive phase in localized tuberculous infection and increasing the resistance. If the tests are omitted we may manage to produce by inoculation only a cumulative negative phase.

16. **Aortic Aneurism.**—Walsham notes the displacement of the heart in aortic aneurism, calling particular attention to the transverse position, which he thinks has not received sufficient attention. This transverse position of the heart he holds becomes of great diagnostic value, and he reports two cases to illustrate this point.

The Practitioner, London.

May.

17 *On Cancer of the Lips. Thornley Stoker.
18 *Excision of the Tongue for Cancer. Walter Whitehead.
19 On Cases in Which I Have Experienced Great Difficulty in the Diagnosis of Cancer of the Tongue. Henry T. Butlin.
20 *A Few Lessons from Fifty Cases of Operation for Carcinoma of the Tongue. W. H. A. Jacobson.
21 On a Series of Cases of Cancer of the Tongue. Stanley Boyd and W. H. Unwin.
22 *The Diagnosis of Epithelioma of the Mouth from Tertiary Syphilitic and Other Lesions. Jonathan Hutchinson.
23 Transhyoid Pharyngotomy. Albert Carless.
24 *The Insidiousness of Cancer of the Mouth. Edmund W. Roughton.
25 Notes upon Sarcoma of the Tongue, Based on an Analysis of Forty-four Recorded Cases. A. D. Fripp and R. H. J. Swan.
26 Inflammatory and Other Neoplasms of the Jaws Dependent on Teeth. J. G. Turner.
27 A Further Contribution to the Distribution of Cancer. D'Arcy Power.

17. **Cancer of the Lips.**—Stoker finds cancer of the lips much more abundant in men, though a few cases have occurred in women. It almost invariably occurs on the lower lip. The use of the pipe is the exciting cause in almost every case. It is rare under 40 and the position in life seems to have something to do with its existence. The well-to-do classes seldom smoke clay pipes and rarely suffer from the disease in this situation. Its progress is definite and regular if unchecked; it is always a squamous-celled epithelioma. The operation is a simple one; he objects to any special attention to cosmetic considerations, the more elaborate the operation the more likely the recurrence. The prognosis is extremely good even in severe cases if the operation is thorough.

18. **Excision of the Tongue.**—Whitehead has excised the tongue with scissors in 116 cases within the last twelve years, with only three deaths and in only one of these could the death be directly attributed to the operation. He does not favor the idea of preliminary tracheotomy and thinks that the ecraseur should be dropped from the list of recognized surgical instruments. Division of the jaw is unjustifiable in excising the tongue or even in removing the glands beneath. The preliminary ligation of the linguals is not necessary; it is much easier to secure vessels in the mouth than in the neck. He prefers for the operating table the ordinary high-backed rocking chair, which will be found in almost every house. He fastens the patient to the rocking chair with the roller towel and bandage, and the chair may be turned back, made horizontal or used at any angle. In case of any suspicion of syncope, the patient can be instantly lowered to the recumbent position. The details of the operation are described. The tongue is seized, pulled forward, and a strong ligature attached for the purpose of forward or upward traction during the operation. This controls to a large extent the main arteries and makes all subsequent operations easier. With this ligature the operator draws the tongue forward and upward to the fullest extent and commences by freely dividing the frenum by means of a pair of scissors, slipping the lower blade of the scissors under the mucous membrane to each side as far back as the interior pillar of the fauces. By closing the scissors the attachment of the mucous membrane to the jaw is severed. After dividing the anterior pillars he liberates the lateral attachments. As a rule, after dividing the frenum, a finger can be easily run under the mucous membrane and act as a guide. When these incisions are completely accomplished it will be found that nearly the whole of the tongue can be pulled out of the mouth, making the rest of the operation extra-oral, which is of great advantage. Having thus separated the tongue so far there is no absolute necessity for further using a cutting instrument; the tissues may be broken down with a blunt dissector and the arteries and nerves exposed. Nothing is easier than seizing each artery separately by forceps, snipping the distal end, and gently twisting the stump of the vessel. If it does not bleed immediately after torsion, there is practically no danger of subsequent hemorrhage. Having twisted each artery, he thinks it is desirable to place a loop of strong ligature through the under and attached part of the stump of the tongue to prevent the stump falling back when the tongue is finally removed. This may not be necessary in hospital practice, but it is of great advantage and gives the nurse confidence. The final separation may be completed by either snipping through the remaining muscular fibers, or deliberately twisting the stump until the tongue becomes completely detached. After removal of the tongue and any small vessels still bleeding twisted and when the floor of the mouth is quite dry, he thinks it a great advantage to apply a varnish to the floor of the mouth. He uses for this a varnish made by substituting for the spirit ordinarily used in the preparation of "Friar's Balsam" a saturated ethereal solution of iodoform, adding one volume in ten of turpentine. In addition to other advantages it checks capillary oozing and deadens the acute sensibility of the raw surface, enables the patient to take local nourishment almost immediately and lessens the danger of septic infection. It may be applied repeatedly during the

convalescence, the patient welcoming it. As a routine practice he would prop the patient up in bed and prevent his reclining during the first night. Next day he would be encouraged to get out of bed and sit up; and on the second day, if the weather is good, to go out of doors. Infected glands should be exposed as far as practicable, but when they can not be removed, removal of the tongue is often justifiable to relieve the discomforts and lengthen life. Whitehead reports the cases of patients who have lived more than eleven years after the operation and one of thirteen years after the neck glands had also been excised. In one case of a plumber with removal of the tongue 14 years ago, up to two years ago, when he was lost sight of, he was in good health and an accomplished public local tenor singer.

20. **Pre-Cancerous Conditions.**—In the first part of Jacobson's article the subject of pre-cancerous conditions is chiefly discussed. The tongue is a witness for itself at all times, and we have a better chance in this organ to ascertain the conditions producing malignant disease. The conditions which he notices are bald tongue, or chronic glossitis resulting in wasting and destruction of the protective papillæ, ulcers, cracks, fissures, leucoplakia, or leucoma, and old persistent glossitis with numerous sulci and chronic enlargement of the tongue. The chances of a patient with pre-cancerous conditions not having cancer are small. When we see these conditions early we should impress on the patients that they are in danger and that their speech will not be insufficient after operation, that operation in this early stage is a safe one and attended by rapid healing. The pathology is noted and cases illustrating the power of speech after extirpation of the tongue are given.

22. **Epithelioma of the Mouth.**—Hutchinson discusses the diagnosis of epithelioma of the mouth from tertiary syphilis. The difficulties are shown by the fact that in at least 30 per cent. of the patients of this class, a history of former syphilis can be obtained. In perhaps 20 per cent. epithelioma supervenes on tongues that have been the site of chronic syphilitic inflammation. In certain cases it is impossible to tell, except by microscopic examination, the nature of the growth. The therapeutic test is often fallacious. Epithelial cancer is no uniform occurrence; it varies greatly. He points out the characteristics and gives illustrations of the different types. They may simulate or cause confusion with such conditions as gummata, papilloma, leucoplakia, etc. In case of dental ulceration a hard-edged ulcer of the tongue opposite a sharp or carious tooth must always be regarded with suspicion, and it is best to excise it and treat it as a cancer or epithelioma.

24. **The Insidiousness of Oral Cancer.**—Roughton's article is mainly a report of cases where cancer progressed to the inoperable stage without producing serious discomfort or exciting sufficient attention. He thinks it remarkable that dentists and doctors should overlook the early stages of such a malignant disease. Nevertheless it often causes so slight inconvenience that the patient does not think it worth while to consult a medical man until it is too late.

Bulletin de l'Academie de Medecine, Paris.

28 (April 7.) *Le tétanos consécutif à l'emploi de la gélatine comme hémostatique. Chauffard.
29 (April 11.) Obituary of J. B. V. Laborde, M.D.
30 Cuspidors in Public Institutions. Landouzy.—Crachoirs dans les prisons, etc.
31 Volvulus congénital de l'anse sigmoïde chez un enfant de deux ans et demi. Laparotomie et résection de cette anse. Guérison. J. Boeckel.
32 *De l'abiation de l'utérus et de ses annexes comme moyen curatif de l'ostéomalacie. A. Fochier.
33 (April 21.) *Recurrences of zona. P. Fabre.—Les récidives du zona.

28. **Tetanus After Hemostasis with Gelatin.**—Chauffard tabulates the details of 18 cases of fatal tetanus that are known to have occurred after injection of gelatin in the last two years. Six were reported by German writers and the others by French or Swiss physicians. The subjects were all exhausted by extensive losses of blood, and hence their resisting power was feeble. On the other hand, as Chauffard emphasizes, tetanus has not occurred in any one of the numerous cases of aneurism of the aorta in which gelatin has been injected, with possibly the exception of 2 cases cited without details in the "British Med. Journal" for 1901, II, p. 638. The vitality in case of an aneurism is not at such a low ebb as in severe hemorrhage. Lop and Murat recently observed a case of tetanus, rapidly fatal, developing four days after four injections of a 7 per 1,000 "gelatinized serum," used to arrest repeated and profuse intestinal hemorrhage in the course of a severe typhoid fever. Hirtz has also observed a similar case. In some of the fatal cases reviewed, severe local lesions developed at the point of the injection, and the pus from these lesions induced tetanus in animals. There was unmistakably an infectious symbiosis causing local gangrenous phlegmons or phlegmonous abscesses in some cases, but not in the majority. Chauffard sterilizes his gelatin at 115 C. for half an hour and has never had a mishap of any kind with it. He urges that preparations of gelatin for such uses should be surrounded with all the restrictions and precautions imposed on the manufacture of the curative serums. Lancereaux stated in the following discussion that in more than a thousand injections made by himself or his pupils there has never been any local accident beyond an occasional slight tumefaction of the part without suppuration, and no general disturbance except possibly fever to 40 C., which never lasted more than twelve hours. Pouchet has been testing gelatin in order to determine whether exposure to high temperatures reduces its coagulating power. He found that long sterilization even to 120 or 130 C., after which the gelatin did not solidify on cooling, did not affect the coagulating power of the gelatin when injected. He suggests that the coagulating power may be connected with the lime in the gelatin, which is not modified by the heat. Gley accepts this view and has found that gelatin deprived of its lime has no coagulating influence. The logical conclusion is that the lime alone might prove as effectual a hemostatic as the gelatin, and he proposes a solution of calcium chlorid for the purpose, in place of the gelatin, as he is convinced that the coagulating properties are due exclusively to the acidity of the fluid and the proportion of lime. Chantemesse has long abandoned gelatin, he asserted, in favor of calcium chlorid, which he administers by the mouth in case of intestinal hemorrhage in typhoid fever. As a preventive measure he gives 5 c.c. of calcium chlorid to all his typhoid patients, to be dissolved in sweetened water and taken in the course of eight to ten days. The results have been excellent, as also in case of erythem consecutive to the use of diphtheria antitoxin. The Académie appointed a committee to report on the subject of gelatin in hemostasis after further study of the matter.

32. **Cure of Osteomalacia by Hysterectomy.**—Fochier relates a case of rapidly progressive osteomalacia very much aggravated by a four months' pregnancy. The patient promptly recovered after ablation of uterus and adnexa. The pains vanished the same day. He witnessed also recovery in another case after a Porro operation.

33. **Recurring Zona.**—Fabre has observed 4 cases of relapsing zona in an experience of 207 cases. In one patient zona of the neck recurred eight times in the course of four years, four times on the right side and accompanied by an angina on two occasions. He calls this "repeating zona"—"à répétition"—and has observed a number of cases of this form, the zona returning at the same place after more or less regular intervals not longer than twelve to fifteen months. He has also seen cases of recurrence of the zona at the same spot a few weeks after the first eruption. He suggests the name "periodical zona" for that form of zoster which includes herpes appearing at regular intervals and alternating or coinciding with menstruation or hemorrhoidal flux. This category does not include labial, nasal, genital or vulvar herpes although, when unilateral, this has marked analogy with zona.

Presse Medicale, Paris.

34 (No. 38.) L'adipose douloureuse. Maladie de Dercum. G. Ballet.
35 Diagnosis of Paralysis of Ocular Muscles. F. Terrien.—Diagnostic des paralysies des muscles de l'oeil.
36 (No. 29.) Texte de la declaration obligatoire de la phthisie sous Ferdinand VI, roi d'Espagne, 1751. L. Landouzy. Mentioned in THE JOURNAL, p. 1229.
37 La thérapeutique physique. Un institut français à Argelès (Pyrénées). E. De Lavarenne.

38 *Traitement de la névralgie du trigeminus. E. Zimmern.
39 (No. 30.) *La cure esthétique des hernies inguinales chez la femme. H. Morestin.
40 Infiltration epithéliale expérimentale. L. Bruandet.
41 L'hermophényl dans les infections graves. J. Jarricot.
42 (No. 31.) Les honoraires d'un chirurgien d'autrefois, 1703. E. De Lavarenne.
43 The Enema in History and Art. P. Desfosses and A. Martinet. —Le lavement.
44 (No. 32.) Les relations internationales et la Médecine. E. De Lavarenne.
45 Diagnostic et traitement urétroscopique des urétrites. G. Luys.
46 Technique de l'autopsie. M. Letulle.
47 Le Glycogène comme médicament. J. de Nittis.
48 Technique pour petite injection médicamenteuse sous-cutanée (1 a 20 gm.). F. Jayle. Large chart for ready reference.

38. Treatment of Trifacial Neuralgia.—In case the neuralgia proves rebellious to the usual methods, including opium, Zimmern institutes a course of electric treatment kept up for three months. Only when this proves ineffectual does he propose surgical intervention, and he reserves gasserectomy for the last resort, and only on threats of suicide. His method of applying the electricity in the severer forms is by means of a mask of cotton molded to the side of the face affected, with a continuous current of 3 to 12 milliamperes, each seance lasting an hour or more. The negative electrode is applied to the back or back of the neck. The half mask is fastened to the head with a rubber band or strip of gauze, and as the patient has nothing to hold, the seance is not fatiguing. It is repeated every day at first, preferably at the same hour. There may be a slight improvement by the end of a week, but usually a month must elapse before the patient realizes that he is being much benefited. The pain may be even increased at the first sittings. After three months the great benefit is apparent and the electric treatment can be suspended, but the patients are instructed to return for a week of seances once a month until the pains become insignificant. Even when the neuralgia recurs after such a course there is no comparison between the intensity of the pains before and after. In an extensive experience at the Charcot clinic Zimmern has encountered only two cases of severe trifacial neuralgia which resisted this course of treatment.

39. Esthetic Treatment of Inguinal Hernia in Women.—Morestin sometimes operates for inguinal hernia in women through a vertical incision on the median line of the mons veneris. He describes four cases in detail, with illustrations, to demonstrate the facility with which it is possible through and from this incision to suppress the sac, reform the wall and yet leave no visible scar. He thinks the method is equally applicable to femoral hernia, but has not yet tried in this class. The adipose tissue is easily detached and stretched and the soft parts yield to traction until the incision can be brought nearly over the inguinal ring. Small congenital inguinal hernia is the most appropriate subject for this form of herniotomy, but it is applicable to a certain number of simple and easily reduced hernias in young women or girls, and can be done as thoroughly as by the usual technic while the scar is concealed by the hair.

Semaine Medicale, Paris.

49 (No. 15.) *The Slow Pulse in Icterus, etc. L. Bard (Geneva). —Le ralentissement du pouls dans l'ictère; bradycardie ou rhythme couplé?
50 Letter from America. F. Munch.—L'angiotripsie et la cauterisation combinées comme méthode d'hemostase.
51 Indican in Urine as Aid in Determining Condition of Gastric Chemistry. J. Carles (Bordeaux).—La recherche de l'indican dans les urines comme moyen de diagnostic de l'état du chimisme stomacal.
52 Letter from America. F. Munch.—La diphthérie à Chicago.
53 (No. 16.) *La projection de la retine sur la corticalité calcarine. S. E. Henschen.
54 (No. 17.) *Comparative Mortality of French and German Armies. A. Villaret.—La mortalité comparée des armées française et allemande de 1888 à 1900.
55 Letter from America. F. Munch.—L'anesthésie chirurgicale par l'injection intratronculaire de cocaine.

49. Bradycardia or Couple Rhythm?—Bard has proclaimed for some time that the supposed bradycardia during convalescence from an acute disease is in reality merely one form of couple rhythm. He analyzes the characteristics of the pulse in two cases of catarrhal icterus, showing that in each it simulated bradycardia but was in fact a couple rhythm. He ascribes it to a toxic action on the medulla by the elements of the bile, this action favored undoubtedly by some special personal susceptibility. The couple rhythm in these cases is like the "digitalic couple rhythm" and like that due to some simple functional nervous disturbance. He reviews the mechanism of the heart action as determined by the latest researches but rejects the theory of the "Herzblock" of the Germans as the explanation of true couple rhythm, and of "extrasystoles" as explaining the bigeminal pulse. He refers the irregularities to the medulla and not to the heart itself. The couple rhythm deserves closer study than hitherto bestowed, as it occurs in the majority of cases still accepted as true bradycardia. Every slowing of the pulse, transient or permanent should suggest couple rhythm, and it may occur with a pulse of normal frequency, thus masking pronounced tachycardia. Couple rhythm is usually associated with slightly tachycardiac heart, a pulse of 50 corresponding to a heart beat of 100. In differentiating true bradycardia the venous pulse is of great assistance, and also the behavior of the pulse on change of position. In case of toxic couple rhythm of slightly or purely functional character, a change of position or even an emotion may abruptly double or nearly double the pulse beat. This transition from one rhythm to another is seldom observed in the sphygmograph. Auscultation of the heart requires practice to render it of much value in the differentiation. The usual character is in fact a threefold rhythm—"à 3 temps"—as he describes in detail, reviewing the conditions with which it might be confounded. It is difficult to determine the prognosis as attacks of couple rhythm, apparently of neuropathic origin, may be followed several years later by general paralysis, as has happened in his experience. The characteristics of the rhythm are more important than its fixity or variability, or even the concomitant symptoms. Generally speaking, the prognosis is grave in couple rhythm of organic origin and less so in the toxic or functional cases. But we must not forget that it is a bulbar symptom, and that in this department of the nervous system even the merely functional troubles are not exempt from danger.

53. Projection of Retina on Cortex.—Henschen contends that the value of negative cases of hemianopsia has been overlooked. The entire lateral surface of the occipital lobes and of the angular gyrus may be destroyed without this disturbance of vision. Lesions in the calcarine region alone induce hemianopsia. He illustrates several typical cases personally observed, showing the exact correspondence between the form of hemianopsia discovered and the site of a lesion found in the calcarine region. In one case the lesion was correctly diagnosed during life and the lesion discovered exactly at the point designated. The upper lip always corresponds to the superior quadrant of the retina and the lower lip to the inferior quadrant. The bottom of the calcarine fissure, therefore, evidently corresponds to the horizontal zone of the retina. A lesion in the depths of the sulcus hence would induce a constant horizontal scotoma, and this assumption was realized in a case recently observed. The homonymous scotoma in the horizontal meridian noted during life was explained by a circumscribed lesion discovered at the autopsy at the bottom of the calcarine fissure, a loss of substance consecutive to softening. The arguments and 23 cuts establish beyond question the existence of a cortical projection of the retina.

54. Comparison of Mortality in German and French Armies.—Villaret's sixteen charts embrace a period of twelve years and are computed for troops under approximately like conditions. The total mortality was 5.9 per 1,000 for the French and 2.7 per 1,000 for the Germans. The French mortality from grippe was eleven times higher than the German; from typhoid fever more than six times; from measles thirteen, scarlet fever eight, and diphtheria three times; from dysentery ten times and from pulmonary tuberculosis more than twice as high; from tuberculosis of other organs five times; from pneumonia twice, and from pleurisy once and a half. On the other hand, the German mortality from meningitis was a third higher than the French, and also from peritonitis, while the suicides were twice as numerous—.47 against .27 per 1,000—and deaths from accidents numbered .34 against .27 per 1,000. Villaret analyzes

the conditions minutely and concludes that there is no inherent reason for the difference between the mortality of the two armies. It is due, among other things, to the more careful selection of recruits. The examiners are not allowed to pass on a larger number than 150 in one day. The family antecedents of the recruits are investigated and the recruit known to have a hereditary burden is submitted to minute and prolonged observation before final acceptance. He concludes with the remark that the population is beginning to feel the beneficial effects of the three great social laws (insurance against sickness, against old age and against industrial accidents) which cost the German empire at the rate of $250,000 a day. Compulsory military service has been organized in Germany since 1814, while it is of comparatively recent date in France, 1870. For all these reasons the general standard of health and hygiene in the army is at a high level in Germany, but there is no intrinsic reason why other countries can not reach the same by appropriate hygienic and prophylactic measures.

Berliner Klin. Wochenschrift.

56 (XXIV, 14.) Diagnostic Value of Urinary Pigment. G. Klemperer.—Die Messung des Harnfarbstoffs und ihre diagnostischen Verwerthbarkeit.

57 Atony of Stomach and Its Relation to the "Splashing Sound" and to Gastrectasia. F. Cohnheim.—Ueber Atonie des Magens und ihre Beziehungen zum Plätschergeräusch und zur Gastrectasie.

58 (No. 15.) Peculiar Vascular Murmur in Lung. P. K. Pel (Amsterdam).—Ein seltenes Gefässgeräusch in der Lunge.

59 Ueber Oesophagotomie, zugleich ein Beitrag zur Behandlung der periosophagealen Phlegmone. Peis-Leuuden.

60 Conservative, Non-Operative Treatment of Female Affections. A. Pinkuss.—Zur conservativen, nicht operativen Behandlung von Frauenleiden. (Commenced in No. 13.)

61 Determination and Legal Status, etc., of Hermaphrodites. T. Landau.—Ueber Hermaphroditen nebst einigen Bemerkungen über die Erkenntnis und die rechtliche Stellung dieser Individuen.

62 (No. 14.) Study of Arrow Poisons. Fifth article. L. Brieger and G. Diesselhorst.—Untersuchungen über Pfeilgifte aus Deutsch-Ostafrika.

63 Processes in Cure of Pneumonia. F. O. Huber.—Ueber einige Vorgänge bei der Heilung der Pneumonie.

64 Mesotan, an External Remedy for Rheumatism. K. Liepelt.—Mesotan, ein äusserliches Antirheumatikum.

65 Can Segregation of Urine Take Place of Catheterization of Ureters? J. Cohn.—Kann der Harnleiterkatheterismus durch Harnsegregation ersetzt worden?

66 Reform in Training, etc., of Nurses. Salzwedel.—Aerztliche Forderungen zu Reforme des Krankenpflegewesens. (Commenced in No. 14.)

67 The Lymph Glands. W. Sukiennikow.—Topographische Anatomie der bronchialen und trachealen Lymphdrüsen. (Commenced in No. 14.)

Centralblatt f. Chirurgie, Leipsic.

68 (XXX, 9.) Simplification of Suture in Applying Murphy Button. Sprengel.—Zur Vereinfachung der Naht bei Anwendung des Murphyknopfes.

69 (No. 10.) *Einiges über die subkutanen Prothesen nach Gersuny. S. Kofmann.

70 (No. 11.) *Single Phases of Commencing Narcosis. C. Hofmann.—Ueber die einzelnen Phasen der Betäubung zu Beginn der Narkose.

71 (No. 12.) Chemistry of Oxygen-Chloroform Narcosis. Roth. —Zur Chemie der Sauerstoff-Chloroformnarkose.

72 (No. 13.) Plastic Operation on Face: Drawing the Skin Over While the Soft Parts of Nose Are Temporarily Turned Back. H. Schloffer.—Gesichtsplastik mit Verschiebung der Gesichtshaut unter temporärer Aufklappung der welchen Nase.

73 (No. 14.) Zur Ether-Chloroform-Mischnarkose. H. Braun.

74 (No. 15.) *Legal Status of Surgeon in Abraham's Time. Oefele (Bad Neuenahr).—Rechtliche Stellung des Chirurgen zu Abraham's Zeit (2250 V. C.).

75 (No. 16.) *Iodoform Filling for Bones. Mosetig-Moorhof (Vienna).—Die Iodoformknochenplombe.

76 *Zur operativen Behandlung der Peroneus-Lähmung. C. Deutschländer (Hamburg).

77 (No. 17.) *Fixation of Wandering Kidney in Relatively Normal Position. G. Ruggi (Modena).—Rationelle Methode zur Fixierung der Wanderniere in einer relativ normalen Position.

78 *Closure of Abdominal Wounds and Hernia by Buried Metal Plates. Z. Isnardi (Turin).—Verschliessung von Bauchwunden und Bruchpforten durch versenkte Metallplatten.

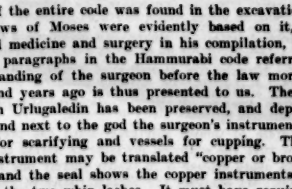
79 (No. 18.) Ueber die Rhinosklerompolypen und über eine Experimentalmethode der Diagnostik des Rhinoskleroms. P. D. Pawlawsky (Kiev).

80 Automatic Syringe for Infiltration Anesthesia. Siegfried Spiegel (Mosetig-Moorhof's clinic, Vienna).—Zur Technik der Infiltrations-Anesthesie. Eine selbstwirkende Injektionsspritze.

69. **Warning Against Paraffin Prothesis in Gynecology.**—Kofmann comments on the enthusiasm with which he introduced this method of correcting deformities into Russia and his constant success until he enlarged its sphere to include gynecologic affections. His first case of the latter was a middle-aged woman who had suffered for years from granular endometritis and mild prolapse. She was treated by abrasio mucosæ, and two weeks later, for the prolapse of the vagina, by injection of paraffin according to Gersuny's directions. After two syringefuls of 10 gm. each had been injected the patient suddenly began to cough and succumbed in twenty-four hours to embolism of the lungs. This use of paraffin Kofmann believes is not adapted to gynecology. It should never be employed in a very vascular region. Since this occurrence he has followed Eckstein's directions, using paraffin with a melting point not less than 57 to 60 C., and in a syringe protected against cooling. The tips must be short and kept warm. He adds that Gersuny's suggestion to insert the tip first and aspirate must not be forgotten, as a trace of blood shows that some vessel has been invaded.

70. **Separate Phases of Commencing Narcosis.**—Hofmann states that the benumbing effect of the first whiffs of ether is not the prerogative of ether alone but is observed likewise with chloroform and mixed narcosis. In every narcosis there is evidently a preliminary phase in which the sensation of pain is deadened while consciousness is still retained. It occurs in every case, but is more or less transient. Sudeck calls it the "Ether Rausch," and he and others have been able to perform even protracted operations with it, repeatedly bringing the patient into this stage without allowing him to pass beyond it into actual narcosis. Hofmann suggests the term "early narcosis" for it to distinguish it from the later, profound narcosis. The two are separated by the period of agitation. The phase of early narcosis may be prolonged by further administration of the anesthetic into what Kronacher calls "half narcosis," or into the profound stage. The "Ether Rausch" is, therefore, not an innovation, but merely the effort to utilize the phase which every anesthetist produces with the first whiffs of any anesthetic. Hofmann himself prefers for this early narcosis the ether drop method with or without previous administration of morphin. With a few c.c. of ether he can banish the sensation of pain in one or two minutes. The patients feel and hear everything, but suffer no pain.

74. **Legal Status of Surgeon in Abraham's Time.**—Oefele is a student of the cuneiform language of ancient Babylonia, and regrets that so little attempt has been made by the legal and medical professions to delve in the cuneiform records stored in such profusion in the British museum and elsewhere. Almost all that is known about them is what the theologians have published, but the code of 282 laws promulgated by King Hammurabi, a contemporary of Abraham, was the basis of all international and national laws then and for thousands of years thereafter, as the Roman code is accepted to-day. A



copy of the entire code was found in the excavations at Susa. The laws of Moses were evidently based on it, but Moses ignored medicine and surgery in his compilation, while eleven of the paragraphs in the Hammurabi code referred to them. The standing of the surgeon before the law more than four thousand years ago is thus presented to us. The seal of the surgeon Urlugaledin has been preserved, and depicts the god Adar and next to the god the surgeon's instrument, a peculiar whip for scarifying and vessels for cupping. The word for this instrument may be translated "copper or bronze scorpion awls" and the seal shows the copper instruments tied to the end of the two whip lashes. It must have required considerable skill to manipulate the instrument properly. This copper instrument was also used to remove cataract. About 1,500

years later the cuneiform word used for the surgeon was "master of the lancet," but his instrument was described then as resembling more a pointed finger nail, and thus differs from the "scorpion awl." The code also throws light on the social position of the surgeon as it stipulates that the architect of a building or builder of a ship receives a fee for his services, but the surgeon is paid like the tailor, carpenter or potter for his work. The code establishes the remuneration for removing a cataract with the "scorpion awl" as 10 sekels when the subject is a freeman, 5 if a freedman and 2 for a slave. A sekel was about 25 cents. If the subject dies after the surgeon has applied the "scorpion awl" or the eye is lost after he has removed a cataract, if a free man, the surgeon's hands shall be cut off; if a slave, the surgeon must replace slave for slave. If the slave's eye is lost the surgeon shall pay half the price of the slave, and if a cow or ass dies after he has treated it with the "scorpion awl" he shall pay one-fourth its value. Oefele remarks that these extreme penalties may possibly be due to the fact that the ancient Babylonians believed that good and bad fortune depended on the stars, and that the surgeon, by operating on lucky days, could ensure success. The calendar expressly stated that the seventh and its multiples were unlucky days. The failure of an operation was, therefore, due either to the surgeon's lack of skill or to his neglect of the astrologic influences.

75. **Filling for Cavities in Bones.**—Mosetig-Moorhof has plugged the cavity left in the bone after removal of a lesion into sound tissue in 120 cases, and the filling was never expelled while the foreign substance was always perfectly tolerated. Every case healed without a fistula. Two patients with necrosis of the thigh bone were able to leave the hospital with a perfectly healed wound in three weeks. Radioscopy has shown that the filling is gradually substituted by neoformation of the bone exactly filling the cavity without leaving a trace of it by the end of a year, as he shows by radiograms of an instructive case. The filling is, therefore, merely temporary. It supports Nature in her horror vacui and serves as a stopgap until the bone can form again. He has found it very important to apply the filling with as careful asepsis and drying out the cavity as a dentist uses in filling a tooth. He then pours into the cavity a semisolid mixture of 60 parts iodoform in 40 parts each of spermaceti and sesame oil. The ingredients are heated together to 80 C. for fifteen minutes and then allowed to cool while the vessel is being constantly shaken in order to spread the iodoform evenly through the mass. When wanted to use it must be rewarmed to about 60 C. and well shaken. It is then slowly poured into the cavity until it is filled to the brim. After waiting a few minutes for it to harden, the flap of soft parts is sutured in place, leaving the fistula opening for drainage or a strip of rubber tissue. There is no bleeding nor secretion from a cavity thus filled. The method is applicable for cavities left from chronic osteomyelitis, necrosis, abscesses or cysts in the bones and carious foci. It is also a valuable aid in carious processes in a joint, and especially in fungous lesions in the joints. He thinks that the latter should be treated surgically at once on account of the danger of general infection from the focus. Any disturbance from resection of the bone can be obviated with this iodoform filling. He makes a practice of treating these lesions in children by removing the cartilage of the joint with the thinnest possible slice of bone, and extirpates most thoroughly the entire capsule and the fungous degenerated neighboring tissues in the soft parts. He is careful also to chisel out all isolated foci, leaving a cone-shaped cavity and filling the defect with the iodoform mixture. The results have been excellent. Growth proceeds undisturbed as the epiphysis cartilage is nowhere injured. Resections in the ankle, wrist and hip joints can be followed by applying this filling to the cavity left, although it is not properly a cavity in a bone. In case of extensive defect in the soft parts it is possible sometimes that part of the free surface of the filling is cast off. But even in this event the substitution of bone for the filling in the depths proceeds undisturbed.

76. **Operative Treatment of Paralysis of Peroneus.**—Deutschlaender's method is distinguished by the facts that the paralyzed tendons are transplanted into muscles innervated by the intact tibialis, and the transplantation is done on both sides of the foot. The necessity for symmetrical treatment has not been sufficiently regarded hitherto, he thinks. The tendons are crossed over the malleolus before being transplanted, which affords a firm support for them and also gives the tibialis a stronger hold for supination and the extensor for pronation. Another advantage is that the fibers of the tendons run obliquely to the axis of traction and are thus less liable to stretch. The stumps of the tibialis anticus muscle are sutured to the tendons at the point where they cross, which promotes dorsal flexion. It is even possible that active flexion may be regained as even much paralyzed muscles are liable to have their function restored when placed under sufficient tension. The various steps of the simple operation are illustrated.

77. **Fixation of Wandering Kidney.**—Ruggi first slits the fibrous capsule after exposing the kidney through a lumbar-costal incision. The capsule is then detached, and each half is seized with forceps and twisted with three or four turns of the forceps. Catgut is then tied around the base of the twist on each side, and the ends of the thread are drawn out through an intercostal space and tied, after the kidney has been drawn up into its normal position by traction on these threads. He has found by tests on the cadaver that these twists will bear a strain of 800 to 1,200 gm. By this technic the kidney is brought under the shelter of the ribs while its anatomic structure is not interfered with in the least.

78. **Buried Metal Plates for Abdominal Wounds and Hernias.**—Witzel and Goepel recommended in 1900 to use silver wire netting to close abdominal wounds. In 1890 Trendelenburg reported a case in which he had inserted a disc of bone for the purpose. The same year Isnardi commenced using thin metal plates and has now an experience of 50 cases of hernia thus treated, including some children. His technic differs from that of all the others as he places the plates directly on the peritoneum. Adhesions soon form and the plate becomes soldered to the peritoneum and moves with it. In a case of umbilical hernia and in one of hernia after appendicectomy, pregnancy and delivery followed without disturbances of any kind or discomfort from the buried plate. He uses a very thin round or oval perforated plate of flexible metal with a rounded, raised, smooth edge. It is wider than the hernial opening, and is inserted sideways as a button is worked into a button hole. The peritoneum is flattened by the plate and does not grow like a funnel into the relics of the hernial opening. It also prevents pressure on the cicatrix from the intestines. It is tolerated by the tissues without appreciable reaction and does not hook into them. He always concludes by suturing with wire, which practice he has been following for five years, using wire for all buried sutures and ligatures of vessels, and for laparotomies, etc. At the autopsy of a child who had been operated on with the plate for a large inguinal hernia and died from measles two years later, the plate was found solidly fastened to the peritoneum.

Therapeutische Monatshefte, Berlin.

81 (XVII, 2.) *Convenient Form of Quinin for Subcutaneous Use. Aufrecht (Magdeburg).—Eine bequemere subkutane Anwendungsweise des Chinins.

82 Camphor During Withdrawal of Morphin. A. Erlenmeyer.—Die Wirkung des Kampfers in der Abstinenzperiode der Morphium-Entziehung.

83 Zur Behandlung des Ileus. A. Schulze.

84 Ueber Pyelitis und Pyelonephritis auf Grund von Gonorrhoe. B. Marcuse.

85 Beitrag zur Behandlung der Lungen-Tuberkulose. J. Margoniner.

86 Franzensbad Waters in Gynecologic Affections. Nenadovics.—Zur wissenschaftlichen Verordnung der Franzensbader Moorbäder bei Frauenkrankheiten.

87 The Cold Sulphur Waters of Preston, Canada, and the Thermal Sulphur Waters of Landeck. Ostrowicz.—Die kalten Schwefelwässer von Preston, etc.

88 Mineral Water Soaps in Cutaneous Affections. Bardach.—Quellsalzseifen bei Hautkrankheiten.

89 Carbolic Acid, Lysol and Lysoform. F. Nagelschmidt.—Karbolsäure, Lysol und Lysoform.

90 Plaster Bandages for Enteroptosis. W. N. Clemm.—Ueber das A. Rosesche Verfahren Eingeweidesenkungen mit Heftpflasterverbänden zu behandeln.

91 *Prophylaxis of Carcinoma. H. Mohr.—Die Prophylaxe des Karzinoms, ein Ueberblick über den augenblicklichen Stand der Frage.
92 (No. 3.) Diuretic Action of Boric Acid. O. Liebreich.—Ueber die diur. Wirkung der Borsäure.
93 *Tests of Borax, Salt, Acetic Acid, etc., on Frog Skin. T. A. Maass.—Ueber die Einwirkung von Borax, Borsäure sowie von Kochsalz, Essigsäure, Weinsäure, Zitronensäure und Natriumkarbonat auf die lebende Froschhaut.
94 *Irrigation of Biliary Passages for Diagnostic and Therapeutic Purposes. F. Kuhn (Kassel).—Durchspülung der Gallengänge zu diagn. und therap. Zwecke.
95 Improved Rib Cutter. Aufrecht.—Eine Verbesserung der Rippenresektionsscheere.
96 Comparative Study of Gaultheria Oil and Mesotan. Dreser.—Pharmakologische Bemerkungen über einige Salizylsäureester.
97 Die Erfolge des Diphtherie-Heilserums. Lichtwitz, Jr.
98 Further Successes of Cancroin in Cancer. A. Adamkiewicz (Vienna).—Bericht über weitere Erfolge des Cancroin beim Krebs des Gesichtes, der Speiseröhre, des Magens, des Mastdarmes, der Gebärmutter, der Brustdrüse und der Netzhaut. (Commenced in No. 2.)
99 *Harmlessness of Boric Acid. O. Liebreich.—Ein neuer Beweis für die Unschädlichkeit der Borsäure.
100 Holder for Murphy Button. M. Scheuer (Richmond, Cape).—Handhabe f. M.-Knopf.
101 Improved Curved Trocar for Hydrops, etc. E. Müller (Hagen i. Westfalen).—Modifizierter gekrümmter Troikart für Hydrops, Anasarka und Empyema des Thorax.
102 (No. 4.) Das Paraffin als subkutane Prothese. Wendel. General review.
103 *Zur endovenösen Applikation der Medikamente. F. Mendel.
104 *Electric Light Treatment of Certain Affections of Air Passages. W. Freudenthal (New York).—Ueber die Anwendung des elektrischen Lichts bei einigen Erkrankungen der Luftwege.
105 Ueber die Bedeutung der Syphilis in der Pathogenese der Tabes. W. Friedländer (Berlin).
106 Death After Injection of Diphtheria Antitoxin. W. Gerlach (Poltawa).—Tod nach einer Antidiphtherie Seruminjektion.
107 Application of Camphor During Withdrawal of Morphin. J. Hofmann (Cologne).—Ueber die Anwendung des Kampfers bei Morphiumentziehung.
108 Alte Bekannte. H. Naegeli-Akerblom. Historical.
109 Ichthyol Plaster as Substitute for Ordinary Adhesive Plaster. M. Eberson (Tarnov).—Ichthyolpflaster als Ersatz für das englische Pflaster.

81. Improved Technic for Subcutaneous Injection of Quinin.—Aufrecht has long advocated quinin in the treatment of croupous pneumonia and puerperal infection. It is not a specific, but it seems to counteract the injurious action of the bacterial products in the blood and have a generally favorable influence on the course of the affection. The mortality from croupous pneumonia had ranged from 13 to 24.9 per cent. until this quinin treatment was instituted, and since then it has never been over 10, and one year as low as 5 per cent. in a total of 382 cases. The improvement in the technic which he now recommends, as already mentioned in THE JOURNAL, p. 1394, is the addition of urethane, a mild sedative, which renders the quinin much more soluble. Without it the hydrochlorate requires 34 times its volume of water, but with .25 gm. urethane to .5 gm. quinin hydrochlorate water to make only 5 gm. is all that is needed. This mixture keeps for weeks if not exposed to severe cold, and in any event redissolves on heating. He injects it in the side of the abdomen, repeating it once or twice in twenty-four hours for eight days. His experience indicates that the unpleasant by-effects of quinin are less intense than when it is given by the mouth.

91. Prophylaxis of Cancer.—Mohr urges that more attention should be paid to the precursors of carcinoma, and the transitional phenomena.

93. Tests of Borax, Etc., on Frogs.—The experimental research described shows that salt and vinegar were much more harmful for the skin of the living frog than borax or boric acid.

94. Irrigation of Biliary Passages for Diagnostic and Therapeutic Purposes.—Kuhn's experience with 59 patients enables him to cordially recommend the practice of thorough rinsing of the biliary passages into the intestine during and after operation. The flow of water sweeps out hidden calculi and by distending the walls, massages the entire route. A fluid can be used that has a dissolving tendency, Carlsbad water or eunatrol, for instance, and a direct therapeutic effect thus be induced. He believes that recovery is prompter and more complete when the gall bladder is not removed.

99. Harmlessness of Boric Acid.—Liebreich contributes several arguments in favor of the harmlessness of boric acid.

103. Intravenous Medication.—Mendel attributes to Landerer and his cinnamic acid treatment of tuberculosis, 1888, the revival of the intravenous method of medication. Mendel has himself had excellent results from intravenous administration of arsenic in form of sodium cacodylate or the preparation of arsenic known as atoxyl. The general nutrition and metabolism were improved and the effects were particularly striking in tuberculosis, anemia and in chlorotic girls. He reports actually brilliant results from it in 3 cases of exophthalmic goiter. By the end of six to eight weeks the exophthalmus, struma and palpitations had diminished to such an extent that the patients considered themselves cured. In 9 cases of tuberculosis, 3 in the early stages were cured and the others very much improved. The tuberculous process was arrested, or at least materially retarded. In a case of disfiguring chloasma of the forehead, the increased circulation in the skin under the influence of the arsenic, resulted in the rapid absorption of the pigmentation. He has found it also extremely effective in the disturbances due to the natural or artificial menopause. He treated 10 cases of tuberculosis by a combination of intravenous injection of 1/10 mg. of tuberculin and arsenic in the form of atoxyl. The general reaction to tuberculin by this route seemed to be less severe, but the local reaction was more intense. He claims that the benefits derived commend it unhesitatingly for further trials. He found the intravenous technic free from danger or pain, and reports that 20 cases of syphilis were rapidly cured by intravenous injections of the form of mercury known as sublamin, which is peculiarly mild in its by-effects, never causing stomatitis nor other troubles in his experience, while the therapeutic effect was rapid and energetic.

104. Electric Light Treatment of Upper-Air Passages.—Freudenthal reviews his favorable experience with electric light in treatment of laryngeal tuberculosis, hay fever, etc.

Therapie der Gegenwart, Berlin.

110 (No. 4.) Ueber die diagnostische Bedeutung und Behandlung functioneller Myopathien. O. Rosenbach (Berlin).
111 *Experience with Boric Acid in Obesity Cures. K. Lenz (Berlin).—Ueber Erfahrungen bei Entfettungskuren mit Borsäure.
112 After-Treatment of Pleuritic Exudates. D. Rothschild (Bad Sodern a. T.).—Zur Nachbehandlung pleur. Exsudate.
113 Zur Tuberkulosefrage. F. Klemperer. General review.
114 Study of Results of Operative Treatment of Chronic Nephritis. G. Klemperer. General review.—Heilung der chron. Nierenentzündung durch op. Behandlung?
115 Early Operation in Appendicitis. Schultz (Friedenau).—Beitrag zur Frühoperation bei App. acuta.

111. Boric Acid in Obesity Cures.—Lenz noticed unpleasant symptoms in some cases but none in others, and recommends tentative use of this means of reducing obesity on account of its convenience and efficacy in certain cases. He begins with small doses and increases to 1.5 to 2 gm. of boric acid a day, dissolved in hot water, in three portions during the day. One of his 6 patients gained 9 pounds in eleven weeks, with no restrictions as to diet.

Riforma Medica, Palermo.

116 (No. 8.) Rhythmic Jerking of the Head. M. Bucco.—Le scosse ritmiche del capo nell' ipertensione con arteriosclerosi.
117 Contributo alla patologia del diverticolo di Meckel. G. Bendandi.
118 *Functions of Hypophysis. D. Pirrone.—Contributo sperimentale allo studio della funzione dell'ipofisi. (Commenced in No. 7.)
119 Considerazioni cliniche intorno a 2 casi di spondilite tubercolare. G. Morvano.
120 (No. 9.) Case of Hysteric Fever. G. B. Ughetti.—La febbre isterica.
121 Surgery of Neoplasms in Bladder. G. Bendandi.—Contributo alla cura chirurgica delle eteroplasie dell' uroctsti.
122 Case of Febrile Whooping Cough. A. Cesarani (Buenos Ayres).—Tosse convulsa febbrile. Tipo intermittente quotidiano.
123 (No. 10.) *Cardiotoxic Serum. L. Ferrannini.—Un siero cardiotossico.
124 Infantile Cardiopathy of Left Heart. L. Concetti.—Sulla etiologia delle cardiopatie infantili del cuore.
125 Surgery of Abdominal Stab Wounds. V. Martinelli.—Stato attuale della chirurgia addominale per ferite d'arma bianca.
126 *La tachicardia parcssistica di natura epilettica. G. Bellisari. (Commenced in No. 9.)
127 (No. 11.) Sopra un nuevo blastomicete patogeno (Saccharomyces infiltrans Casagrandi and Santori); (Saccaromyces pseudotubercolaris Santori). Casagrandi and Santori.

128 New Facts in Regard to Nutrition. M. Ascoli.—Fatti nuovi per la dottrina della nutrizione.
129 Due casi d'angiocolite muco-purulenta. A. Campani.

118. Experimental Study of the Functions of the Hypophysis.—Pirrone removed the hypophysis in 6 dogs, partially resected it in others, and also studied the effects of electric stimulation in another set of animals, while in still others he studied the influence on the function of the hypophysis of severe traumatisms affecting the nervous system. He found that total ablation was invariably fatal after a stage of motor disturbances, great depression, rapid emaciation and cachexia. Other phenomena observed after ablation of the organ were due to the traumatism of the operation and should not be attributed to the loss of the hypophysis. The composition of the urine was not modified by total ablation, but the pulse was accelerated at first and later became slower than usual. Electric stimulation slows the pulse and accelerates the respiration, the reaction increasing in intensity as the stimulation is applied farther to the rear.

123. Cardiotoxic Serum.—Ferrannini asserts that Belfanti and Carbone were the first to call attention to the fact that an animal (horse) treated by intraperitoneal injection of rabbit blood furnished a serum extremely toxic for rabbits. From this simple beginning has grown the famous researches of Büchner, Ehrlich and others in regard to the prepared serums active against the cells from which they were originally derived. Ferrannini has been experimenting with a cardiotoxic serum produced by injecting guinea-pigs with an emulsion of frogs' hearts and rabbits with toads'. The serum thus obtained was injected into frogs and toads. In small doses it had a stimulating action while in larger ones it invariably caused at first an exaggeration of the heart action followed by a gradual depression to complete suspension. Normal serum had no such effect.

126. Epileptic Paroxysmal Tachycardia.—Bellisari has collected 7 cases and has himself observed 4 which demonstrate the existence of a variety of paroxysmal tachycardia that should be regarded as an epileptic equivalent. The same as the latter, the etiology may include neuropathic heredity, trauma or cortical foci. The symptoms do not differ from those of essential tachycardia and the diagnosis must be based on the history of the case, the nocturnal onset, the premonitory and consecutive symptoms and the influence of bromid medication. These attacks of tachycardia may be interpreted as conditions of arrest of the cardio-inhibiting function of the vagus from some irritation of the cortex. The prognosis need not be so guarded as is necessary in other forms of unknown cause, although repetition of the attacks may entail permanent hypoasystolia possibly complicated by some anatomic lesion independent of the neurosis. His first case was a man of 34, unmarried, free from venereal and alcoholic antecedents. At 16 he had commenced to have epileptic seizures which had gradually become attenuated and ceased entirely for two or three years, when he began to be affected with nocturnal attacks of tachycardia and tachypnea, becoming more frequent until they occurred nearly every night and several times in the night. The cardiac seizures increased in intensity as the ordinary epileptic seizures became attenuated, until finally the tachycardia was accompanied by coughing, vomiting and profuse diarrhea on each recurrence. The pulse was small, soft and 130 in the morning after such an attack, the respiration 52. There was no edema, no enlargement of the liver. Digitalis was administered, but without the slightest effect; the attacks recurred with increasing intensity. After three days it was substituted by potassium bromid and sodium iodid and the patient commenced to improve at once. The bromid rapidly conquered both the tachycardia and the tachypnea rebellious to digitalis. The patient was able to resume his occupation for five years, occasionally resorting to the bromid when threatened with return of the cardiac attacks, but symptoms then developed, indicating uncompensated hypertrophy and dilatation of the heart, with moderate but continuous tachycardia. The bromid was ineffectual at this stage, and the patient soon succumbed. The second patient was a woman of 33, an epileptic from infancy, with indications of spastic infantile hemiplegia. The menstrual period was accompanied by intense asthma for two or three days, during which time the lung increased in size by an entire rib, and tachycardia for a few hours was noted. During the time when these disturbances were observed the otherwise frequent epileptic seizures were suspended. The seizures evidently had a double equivalent in the asthma and the tachycardia which in turn seemed to be connected in some way with the menstrual molimen. The third patient was a woman of 46, not an epileptic but with neuropathic heredity, intelligent, with a history of enuresis nocturna and night terrors. Sixteen years before she was first seen she was awakened one night by extreme tachypnea and tachycardia for an hour, followed by intense headache. Similar attacks recurred every four or five months and were accompanied by profuse sweating or urination. The oldest of her seven children is an epileptic and feeble minded. Glycerophosphates and bromids were prescribed and the patient has had no recurrence of the attacks during the year since. The fourth patient was a young man who exhibited hemiparesis and transient aphasia in consequence of cerebral embolism occurring in the course of acute articular rheumatism with peri- and endo-carditis and mitral insufficiency. As these symptoms improved the character became altered and a typical epileptic seizure occurred, followed by others every week or two, lasting from ten to thirty minutes. As the convulsions came on the pulse rose to 150-160, and this tachycardia continued for about an hour after the seizure. Under the bromid treatment the seizures were arrested and nothing was left but the tachycardia, preceded by the aura, and these in turn finally grew less and less. The parallel evolution of the tachycardia aand epileptic seizure demonstrated that both were evidently due to the same subcortical lesion that had produced the hemiparesis and aphasia. The existence of the organic lesion of the heart in this case can not be invoked to explain the attacks of tachycardia, given their constant coincidence with the seizures and the persistence of the aura after the seizures had been arrested, precursor of the tachycardia and the testimony to its nature.

Corr. Blatt f. Schweizer Aerzte, Basle.

130 Indications for Sitz Baths. N. Platter.—Nochmals über Sitzbäder.
131 (No. 4.) *Treatment of Fractured Patella. H. Barlöcher.—Zur Behandlung des Kniescheibenbruches.
132 Influence of Magnetic Field on Organism. P. Rodari.—Die physikalischen und physiologisch-therapeutischen Einflüsse des magnetischen Feldes auf den menschlichen Organismus.
133 (No. 5.) Case of Intoxication with Sulphuretted Hydrogen. H. Burckhardt.—Fall von Schwefelwasserstoffvergiftung.
134 Chologen Treatment of Gallstones. Greppin, Glaser et al. See also Nos. 3 and 4.
135 (No. 6.) *Danger of Mountain Railroad Trips, Especially for Elderly Persons. T. Zangger.—Ueber die Gefahr der Bahnfahrten ins Hochgebirge speziell für ältere Leute. (Commenced in No. 5.)
136 (No. 7.) Injuries of Eyes During Birth. Sidler-Huguenin.—Beitrag zur Kenntnis der Geburtsverletzungen des Auges. (Commenced in No. 6.) Seven cases.

131. Treatment of Fractured Patella.—The principles of Bärlocher's method are suture of the parts around the patella, never of the bone itself; suture of the capsule; dry treatment of the exposed joint, and complete closure of the wound, with active movements commenced early. In 28 cases thus treated 20 healed without disturbance. In 5 cases there were some complications elsewhere, and in 3 there were complications at the knee, phlebitis in one case with resulting ankylosis. In another the knee was injured during delirium tremens, and the third exhibited symptoms of pneumonia the day after the operation with fatty degeneration of the heart, and soon succumbed. Only 5 of the total number still use a cane. The patients remained in the hospital from 35 to 68 days, with 2 exceptions, and were able to use the knee freely when dismissed. Examined a year or more afterward there was apparently complete restitution in nearly all.

135. Dangers of Perpendicular Mountain Trips.—Zangger remarks that many persons grow old without being aware of it and can live their usual life in perfect health. Let some sudden strain come on their vascular system and the deterioration of age becomes abruptly evident, with apoplexy or heart

failure as the possible result. He warns that such a strain is entailed by the railroads to the tops of mountains, and emphasizes their dangers for persons over 55, even for those apparently in robust health. He relates that when the railroad on the Jungfrau was planned the promoter was required to show that such an ascent was harmless before the scheme received official sanction. He accomplished this by having 7 persons carried by 42 bearers from Zermatt up the Breithorn to a height of 4,171 meters, a difference in altitude of 2,130 meters. The medical examiners testified that the results showed that healthy men could be carried to this height without objective injury to their health, but so soon as they attempted any active movements, disagreeable and even alarming symptoms of circulatory disturbances were liable to manifest themselves. The subjects of the tests were all more or less used to the mountains. Zangger does not think it necessary to forbid mountain trips to all persons over 60, but recommends that they should test their capacity by doing some mountain climbing at the lower altitude before venturing on the ascent. They should stop over two or three days at intermediate points, and should never attempt to go above 3,000 meters. He gives directions for treatment of the disturbances that may arise and describes an instructive case in detail in which acute dilatation of the heart was the unmistakable result of a trip up the mountains. In ten hours the individual in question went from 840 to 2,590 and 1,410 meters, and again a few days later in a few hours from 1,390 to 840 meters. The heart symptoms grew constantly worse for twelve days until the picture of collapse was presented, with Cheyne-Stokes respiration and symptoms resembling those of the heart failure after diphtheria. About .02 morphin was injected, and after sleeping twenty-four hours he awoke refreshed and gradually recuperated during the following month, but the dilatation of the heart still persisted to a certain extent. The harm done by these abrupt changes of altitude may not become manifest for several days after the subject has returned home. The connection between apoplexy or heart failure occurring under these circumstances and the previous mountain trip has been hitherto overlooked.

Books Received.

Acknowledgment of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

PROCEEDINGS OF THE AMERICAN PHARMACEUTICAL ASSOCIATION at the Fiftieth Annual Meeting, held at Philadelphia, Pa., September, 1902, also the Constitution, By-laws and Roll of Members. Cloth. Pp.1212. Baltimore: American Pharmaceutical Association. 1902.

FIFTY-FOURTH ANNUAL REPORT of the Board of Trustees and Superintendent of the Central Indiana Hospital for the Insane for Fiscal Year Ending Oct. 31, 1902. Paper. Pp. 62. Indianapolis: Wm. B. Burford. 1903.

TRANSACTIONS OF THE AMERICAN DERMATOLOGICAL ASSOCIATION at its Twenty-sixth Annual Meeting, held in Boston, Mass., Sept. 18, 19 and 20, 1902. Paper. Pp. 222. Chicago: P. F. Pettibone & Co. 1903.

OPERATIVE SURGERY. By Herbert William Allingham, F.R.C.S., Surgeon to the Household of His Majesty the King. Cloth. Pp. 367. Price $3 net. New York: Wm. Wood & Co. 1903.

ANNUAL REPORT OF NEW YORK STATE REFORMATORY AT ELMIRA for the Fiscal Year Ending Sept. 30, 1902. Twenty-seventh Yearbook. Illustrated. Paper. 138. Summary Press. 1902.

THE OHIO STATE MEDICAL SOCIETY. Transactions of the Fifty-seventh Annual Meeting, held at Toledo, Ohio, May 28, 29, 30, 1902. Cloth. Pp. 357. Cleveland: J. B. Savage. 1902.

The Public Service.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service for the seven days ended May 14, 1903:

Assistant Surgeon-General H. D. Geddings, to proceed to Elkins, W. Va., for special temporary duty.

Surgeon D. A. Carmichael, granted leave of absence for seventeen days from May 19.

Surgeon P. C. Kalloch, to assume temporary command of the service at Portland, Me., during absence, on leave, of Surgeon S. D. Brooks.

Surgeon S. D. Brooks, granted leave of absence for three days from May 19.

P. A. Surgeon J. H. Oakley, granted leave of absence for three days.

P. A. Surgeon S. B. Grubbs, granted leave of absence for one month. To rejoin station at Gulf quarantine at expiration of leave of absence.

Asst.-Surgeon C. E. Decker, granted extension of leave of absence, on account of sickness, for fourteen days from April 10.

Asst.-Surgeon T. F. Richardson, granted leave of absence for three days from May 8, under provisions of paragraph 191 of the regulations. To proceed to Gulf quarantine station for special temporary duty.

Asst.-Surgeon M. W. Glover, to proceed to Newbern, N. C., for special temporary duty.

A. A. Surgeon B. F. Duke, granted leave of absence for four days from May 18.

A. A. Surgeon B. W. Goldsborough, granted leave of absence for five days.

A. A. Surgeon G. A. Gregory, granted leave of absence for four days from May 18.

A. A. Surgeon K. S. Kennard, granted leave of absence for twenty-one days from April 25.

A. A. Surgeon J. W. Stevenson, granted leave of absence for seven days from May 11, under provisions of paragraph 191 of the regulations.

Pharmacist A. M. Roehrig, granted leave of absence for five days from May 12, under provisions of paragraph 191 of the regulations.

Navy Changes.

Changes in the Medical Corps of the Navy for the week ending May 16, 1903:

P. A. Surgeon R. K. Smith, resignation accepted, to take effect May 19, 1903.

A. A. Surgeon J. R. Dykes, U. S. N., appointed assistant surgeon April 18, 1903.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended May 16, 1903:

SMALLPOX—UNITED STATES.

California: Los Angeles, April 25-May 2, 2 cases; San Francisco, April 26-May 3, six cases.
Colorado: Denver, April 11-25, 53 cases.
District of Columbia: Washington, May 3-9, 1 case.
Florida: Jacksonville, May 3-9, 3 cases.
Georgia: Atlanta, April 29-May 6, 1 case.
Illinois: Belleville, May 3-9, 5 cases; Chicago, May 3-9, 14 cases, 4 deaths; Galesburg, May 3-9, 4 cases.
Indiana: Indianapolis, May 3-9, 7 cases.
Iowa: Des Moines, May 3-9, 4 cases.
Kansas: Wichita, April 26-May 9, 1 case.
Louisiana: New Orleans, May 3-9, 18 cases.
Maine: Biddeford, May 3-9, 1 case.
Maryland: Baltimore, May 3-9, 4 cases.
Massachusetts: Holyoke, May 3-9, 1 case.
Michigan: Detroit, May 3-9, 12 cases; Flint, May 3-9, 1 case; Grand Rapids, May 3-9, 4 cases; Port Huron, May 4-11, 1 case.
New Hampshire: Manchester, May 3-9, 2 cases; Nashua, May 3-9, 3 cases.
New York: Buffalo, May 3-9, 3 cases; Rochester, April 30-May 7, 1 case, 1 death.
Pennsylvania: Johnstown, May 3-9, 3 cases; McKeesport, May 3-9, 1 death; Philadelphia, May 3-9, 26 cases, 2 deaths.
South Carolina: Georgetown, May 18, 1 patient from Charleston.
Tennessee: Memphis, May 3-9, 2 cases imported.
Utah: Salt Lake City, May 3-9, 3 cases.
Wisconsin: Milwaukee, May 3-9, 2 cases.

SMALLPOX—FOREIGN.

Belgium: Brussels, April 18-25, 7 deaths; Ghent, March 28-April 25, 6 deaths.
Brazil: Rio de Janeiro, April 5-12, 3 deaths.
Canary Islands: Las Palmas, April 4-18, 44 cases.
Colombia: Bocas del Toro, April 21-28, present.
Great Britain: Birmingham, April 18-25, 7 cases; Dublin, April 18-25, 8 cases, 1 death; Liverpool, April 25, 69 cases, 6 deaths; London, April 18-25, 9 cases; Newcastle-on-Tyne, April 18-25, 2 cases; South Shields, April 18-25, 2 cases; Sunderland, April 18-25, 7 cases.
India: Bombay, April 7-14, 67 deaths; Calcutta, March 28-April 18, 7 deaths; Madras, March 28-April 3, 1 case.
Italy: Palermo, April 18-25, 1 case.
Mexico: City of Mexico, April 12-26, 21 cases, 11 deaths.
Russia: Moscow, April 4-11, 5 cases, 4 deaths; Odessa, April 11-18, 4 cases; Warsaw, April 4-11, 8 deaths.

YELLOW FEVER.

Brazil: Rio de Janeiro, April 5-12, 29 deaths.
Colombia: Panama, April 30-May 7, 3 cases, 1 death.
Costa Rica: Limon, April 23-30, 2 cases.
Ecuador: Guayaquil, April 11-18, 2 deaths.
Mexico: Tampico, May 2-9, 2 cases, 2 deaths.

CHOLERA.

India: Calcutta, March 28-April 11, 206 deaths.

PLAGUE.

Australia: Perth, to March 23, 16 cases, 8 deaths; Rockhampton, to March 28, 2 cases; Townsville, to March 28, 3 cases.
Brazil: Rio de Janeiro, April 5-12, 2 deaths.
India: Bombay, April 7-14, 1,509 deaths; Calcutta, March 28-April 11, 1,779 deaths; Karachi, March 29-April 5, 195 cases, 161 deaths.